



**PROFESSIONAL SERVICES
ARCHITECTURAL/ENGINEERING AGREEMENT
FOR
TESTING ADJUSTING AND BALANCING SERVICES
AT THE CAPITOL COMPLEX
BETWEEN
THE TEXAS FACILITIES COMMISSION
AND
ENGINEERED AIR BALANCE COMPANY, INC.
PROJECT NO. 17-017-8020 (16-018E-8001)
TFC CONTRACT NO. 21-020-000**

PROFESSIONAL ARCHITECTURAL/ENGINEERING SERVICES
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AND
ENGINEERED AIR BALANCE COMPANY, INC.

The **Texas Facilities Commission** (hereinafter referred to as “TFC”), a state agency located at 1711 San Jacinto Boulevard, Austin, Texas 78701, as Owner (as defined in *2015 Uniform General Conditions*, Section 1.28) and **Engineered Air Balance Company, Inc.** (hereinafter referred to as “TAB”), located at 12961 Park Central, Suite 1390, San Antonio, Texas 78216, enter into the following agreement for professional services (hereinafter referred to as the “Agreement”) pursuant to the Professional Services Procurement Act, Tex. Gov’t Code Ann. Ch. 2254, Subchapter. A, to be effective as of the Effective Date (as defined below). The project for which TAB agrees to provide Professional Services is generally described as testing and balancing services for the Capitol Complex, Phase 1 as described more particularly herein (hereinafter collectively referred to as the “Project”). Nothing in this Agreement shall be interpreted or construed to make TAB (as defined as defined in *2015 Uniform General Conditions*, Section 1.16) a third-party beneficiary hereunder.

I. DEFINITIONS

Definitions. Unless specifically provided otherwise herein, all words and phrases in this Agreement in initial caps shall have the meanings set out in the *2015 Uniform General Conditions* (hereinafter referred to as “2015 UGC”) and this Section 1.1. In the event of any conflict between the definitions in the 2015 UGC and in the *2018 Supplementary General Conditions to the 2015 Uniform General Conditions* (hereinafter referred to as the 2018 Supplementary General Conditions”), or in any other document referenced herein and incorporated for all purposes, and the definitions in this Agreement, the definitions used in this Agreement shall control to the extent of the conflict. The *2015 Uniform General Conditions* (hereinafter referred to as “UGC”) are located at this TFC Construction Contracts website link, at 5C in PDF:

<http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2015%20UGC%2003.07.2017.Final.pdf>, and are incorporated herein for all purposes as **Exhibit A**. In the event that **Exhibit A** is modified subsequent to the execution of this Agreement, the revised, newer version

of **Exhibit A** shall, upon delivery of written notice to TAB and the execution of an Amendment to this Agreement, replace the prior version and shall govern the Agreement.

The *2018 Supplementary General Conditions to the 2015 Uniform General Conditions* (hereinafter referred to as the “2018 Supplementary General Conditions”) are located at this TFC website link in PDF:

[http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2018%20Supplementary%20Modifications%20to%20Article%205%203-23-2018%20\(003\).pdf](http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2018%20Supplementary%20Modifications%20to%20Article%205%203-23-2018%20(003).pdf), and are incorporated herein for all purposes as **Exhibit B**.

1.1.1. *Additional Services* means those services not included in Article II of this Agreement which may be requested by TFC at any time for the duration of this Agreement, as discussed in Section 4.5 below.

1.1.2. *Architect/Engineer (A/E)* means, individually or collectively, the architectural and engineering service providers contracted by TFC to perform all of the professional architectural and engineering design services, and any licensed professional and other personnel working under the A/E’s supervision, or otherwise engaged by TFC to prepare the design for all or a portion of the Project.

1.1.3. *Budget* means the construction budget for the Project which is forecast to be Three Hundred Seventy-Five Million and No/100 Dollars (\$375,000,000.00) (as of issuance of Request for Qualifications No. 303-9-02101) and which may be amended from time to time by TFC as further assessments, design and construction manager cost estimates are provided.

1.1.4. *Buildings* means 1601 Congress Avenue in the Capitol Complex, Austin, Texas, which is subject to this Agreement.

1.1.5. *Building Information Model* or *BIM* means a computable multi-dimensional representation of the physical and functional characteristics of the Project’s facilities and their related life-cycle information, to be used as a repository of design and construction information for use by the Project Team during the design, bidding and construction phases of the Project, and for TFC’s use throughout the life-cycle of the facilities.

1.1.6. *CAD* means AutoCAD DWG format unless specifically provided otherwise herein.

1.1.7. *Certificate of Substantial Completion* means the certificate signed by the Contractor, A/E, and TFC establishing the date of Substantial Completion for the applicable part of the Work, and identifying responsibilities for security and maintenance as set out in UGC, Paragraph 12.1.1.2.

1.1.8. *Close-out and Record Documents Deadline* means the date that is a fixed number of days after the date of delivery of all Close-out Documents to TAB.

1.1.9. *Close-out Documents* has the same meaning as defined in UGC, Section 1.10 and includes the Contractor's marked-up "as-builts."

1.1.10. *Commissioning Agent or (CxA)* means Sebesta, Inc., dba NV5, the third party team member hired by TFC to ensure the proper installation and operation of technical building systems.

1.1.11. *Communication Protocol* means the communication and tracking procedures to be utilized for interaction and reporting between TFC, TAB, A/Es, Master A/E, CMA, CMRs, Contractors, and Subcontractors, including but not limited to, the use of any EPMCS utilized by TFC for the Project.

1.1.12. *Consideration* means the funds and any and all other forms of valid, legal consideration as discussed in Article IV of this Agreement.

1.1.13. *Construction Costs* means all hard and soft costs for labor, materials, fees, and other similar costs and expenses required to complete the Project, and prepared in the format promulgated by the Construction Specifications Institute.

1.1.14. *Construction Documents* has the same meaning as defined in UGC, Section 1.17 that in TFC's sole opinion are in satisfactory quality and detail. In this context, Construction Documents includes the Testing Adjusting and Balance Construction Documents for each Building as defined above (hereinafter referred to as the "Per Building CD's"). The Per Building CD's are attached hereto as **Exhibit C** and incorporated herein for all purposes.

1.1.15. *Construction Manager Agent or CMA* means Balfour Beatty Construction, LLC, the service provider engaged hereunder as the TFC's fiduciary agent to assist the TFC with management and coordination of the overall design and construction program for the Capitol Complex Projects.

1.1.16. *Construction Manager-at-Risk or CMR* has the same meaning as defined in UGC, Section 1.18, and also refers to the service provider to be engaged by TFC for Phase 1 of the Project to perform (or cause to be performed) the Work on Phase 1 of the Project as a Construction Manager-at-Risk.

1.1.17. *Deliverables* means any and all Drawings, Specifications, photos, designs, studies, sketches, computer programs, reports, and other Professional Services, which are specified to be delivered by TAB pursuant to the terms of this Agreement.

1.1.18. *Design Program* means, collectively, the overall goals and design objectives of the Project, the aesthetic considerations, the functional requirements including: (i) allocations of space with uses and adjacency relationships for all areas/spaces; and (ii) operational objectives and such standards of design that TFC may require for all architectural and engineering disciplines in the design and construction of the Project.

1.1.19. *Effective Date* means the date that the last signature of a party is affixed hereto.

1.1.20. *EPMCS* means electronic project management control system.

1.1.21. *Final Inspection* means the same process and procedure described in UGC, Subsection 12.1.2.

1.1.22. *Final Inspection Deadline* means the date that is thirty (30) days after the Substantial Completion Inspection, and by which date TAB must conduct a Final Inspection.

1.1.23. *Governmental Authorities* means all federal, state, and local governmental entities having jurisdiction over the Project.

1.1.24. *HUB Compliance Reporting System* means the Texas Facilities Commission Historically Underutilized Business (“HUB”) online reporting system located at <https://tfc.gob2g.com>. The HUB Compliance Reporting System is used to maintain business records documenting compliance with the HUB Subcontracting Plan (“HSP”) by submission of monthly Progress Assessment Reports (“PARs”). See Section 11.3, below.

1.1.25. *Laws and Regulations* means any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all Governmental Authorities, including those governing labor, equal employment opportunity, safety, and environmental protection, including but not limited to, all applicable requirements of Title III of the Americans with Disabilities Act and the Texas Architectural Barriers Act and Texas Accessibility Standards found in Texas Government Code, Chapter 469.

1.1.26. *Master A/E* means Page Southerland Page, Inc., the service provider TFC has engaged pursuant to Texas Government Code §2254 as the TFC’s agent for oversight, coordination and management of the overall design of the Capitol Complex Projects by each of the Architect/Engineers for the Projects.

1.1.27. *MEP Systems* means mechanical, electrical, and plumbing systems.

1.1.28. *Notice of Authorization (or “NOA”)* means the written authorization to proceed to the next phase of development of Construction Documents. Notice of Authorization is to be distinguished from a Notice to Proceed.

1.1.29. *Notice of Termination* means the ten (10) day advance written notice of termination that may be delivered pursuant to the terms of this Agreement.

1.1.30. *Notice to Proceed (or “NTP”)* means the written authorization to proceed with commencement of Professional Services that may be delivered to TAB by TFC.

1.1.31. *Order-of-Magnitude Opinion of Probable Construction Cost* means a level one (1) cost estimate to facilitate budgetary and feasibility determinations, based on historical information with adjustments made for specific project conditions, wherein estimates are based on costs per square foot, number of rooms/seats, and the like. Project information required for estimates at this level include a general functional description, schematic layout, geographic

location, size expressed as building area, numbers of people, seats, and the like, and intended use.

1.1.32. *Owner, Texas Facilities Commission, or TFC* means and includes: the State of Texas, the Texas Facilities Commission, and any other agency of the State of Texas acting through TFC in connection with this Agreement.

1.1.33. *PAR* means the progress assessment report in such form as is prescribed by TFC and which has the same meaning as defined in UGC, Section 1.31.

1.1.34. *Pay Application* means the application for payment submitted by TAB as discussed in Article IV below.

1.1.35. *Periodic Reports* means the written reports required to be submitted to TFC by TAB, which reports shall be compiled and submitted in such form as prescribed by TFC.

1.1.36. *Person* means an individual, firm, partnership, corporation, association and any other legally recognized entity.

1.1.37. *Post-Final Inspection Punchlist* means the punchlist of items that TAB will deliver to Contractor that sets out any part of the Work that was not corrected or completed in accordance with the Contract Documents as of the Final Inspection.

1.1.38. *Post-Final Inspection Punchlist Deadline* means the date that is a fixed number of days after the date by which TAB shall deliver any Post-Final Inspection Punchlist to Contractor.

1.1.39. *Pre-Final Inspection Punchlist* means the list of any unresolved punchlist items that TAB will deliver to Contractor when a Certificate of Substantial Completion is delivered by TFC as discussed in UGC, Paragraph 12.1.1.2.

1.1.40. *Pre-Final Inspection Punchlist Deadline* means the date that is a fixed number of days after the completion of the Substantial Completion Inspection, and by which date TAB shall prepare and deliver a proposed Post-Substantial Completion Inspection Punchlist to TFC.

1.1.41. *Professional Services* means (i) professional architectural services; and/or (ii) professional engineering services as defined in Texas Government Code, Chapter 2254, Subchapter A, the scope of both of which is set out in Article II below.

1.1.42. *Professional Services Schedule* (hereinafter sometimes referred to as the "Schedule") means the schedule/timeline set out **Exhibit D**, attached hereto and incorporated herein for all purposes, and which schedule/timeline sets forth the deadlines in terms of a fixed number of days after a preceding deadline for completion and delivery of discrete portions of the Professional Services, which deadlines shall be calculated from the effective date of a Notice to Proceed. At the discretion of the TFC Project Manager and as mutually agreed upon with TAB, the Professional Services Schedule may be revised and defined with more detail as the project develops.

1.1.42.1. The Parties acknowledge that upon execution of this Agreement, the Schedule will not reflect the date of issuance of the NTP. At such time that an NTP is issued, TFC and TAB shall review the current CMR schedule and provide projected start dates for coordination and delivery of proposed services outlined in TAB's Proposal dated September 18, 2020, **Exhibit F**, incorporated in Section 6.1.6, below.

1.1.42.2. Upon entry of the date of issuance of the NTP, the Professional Services Schedule, as revised, shall become, without further notice or action, the effective Professional Services Schedule, and said revised Schedule shall be added to **Exhibit D**.

1.1.43. *Project* means Capitol Complex Phase 1 Project, as further described in Article II.

1.1.44. *Project Analysis* has the same meaning as defined in Texas Government Code, Section 2166.001(5).

1.1.45. *Project Team* means the Master AE, A/E, CMA, CMR, CxA and any separate Contractors, consultants, or other service providers employed by TFC for the purpose of planning, programming, design, construction, and commissioning of the Project. The constitution of the Project Team may vary at different phases of the Project and may be modified from time to time by TFC.

1.1.46. *Project Management Plan*, or *PMP* means the management plan put forth by the CMA and updated monthly.

1.1.47. *Test Adjust and Balance Contractor or TAB* means the individual/s or firm contracted by TFC to perform all of the testing, adjusting, and balancing activities as outlined in this Contract. The TAB shall be part of the Project team who works independently of both designer and Contractor to ensure the proper installation, performance, systems verification, and operations of all installed and integrated systems.

1.1.48. *TAB Project Manager* means the individual designated by TAB, and who must be approved by TFC, as the contact person with specific authority to properly supervise and direct the duties and responsibilities of TAB, on behalf of TAB, pursuant to the terms and conditions of the Agreement, and who shall have decision-making authority to bind TAB with respect to the Professional Services for the Project.

1.1.49. *Reimbursable Expenses* means those reasonable and necessary out-of-pocket costs and expenses incurred by TAB for the provision of the Professional Services that are approved by TFC.

1.1.50. *RFI* means a request for information as defined in UGC, Section 1.35.

1.1.51. *RFI Response* means a written clarification, instruction, and/or interpretation, including, but not necessarily limited to, an architect's supplemental instructions issued in response to an RFI, which response must be consistent with the intent of the Construction Documents.

1.1.52. *RFI Response Deadline* means the date that is seven (7) calendar days after receipt, or uploading, of an RFI, and by which date TAB must deliver an RFI Response to Contractor.

1.1.53. *Scope of Services* means the Professional Services as set out in Article II below.

1.1.54. *Site* means the lands, areas, and/or buildings indicated in the Contract Documents as being furnished by TFC upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by TFC which are designated for the use of the Contractor.

1.1.55. *Subcontract* means any agreements between TAB and a Subcontractor.

1.1.56. *Subcontractor* means any Person that enters into an agreement with TAB to perform any part of the Professional Services.

1.1.57. *Substantial Completion Inspection* means the process and procedure described in UGC, Subsection 12.1.1.

1.1.58. *Substantial Completion Inspection Deadline* means the date that is a fixed number of days after proper written notification is delivered to TFC, TAB, and A/E by Contractor that Contractor has fully satisfied the requirements set out in UGC, Paragraph 12.1.1.1, and by which date TAB must conduct a Substantial Completion Inspection.

1.1.59. *TDLR* means the Texas Department of Licensing and Regulations.

1.1.60. *Testing, Adjusting, and Balancing or TAB* means the systematic process/service applied to heating, ventilating, and air conditioning systems and other environmental systems to achieve and document air and hydronic flow rates.

1.1.61. *TFC Project Manager* means the individual designated by TFC as the Owner's Designated Representative (or "ODR," as defined in UGC Section 1.29), with the direct responsibility to properly supervise the design and construction of the Project, and the services being provided pursuant to this Agreement on behalf of TFC, including, but not limited to, (i) serving as the point of contact between TFC, the Using Agency (if any), and TAB; and (ii) supervising TFC's review and approval of the Professional Services.

1.1.62. *Using Agency* has the same meaning as defined in Texas Government Code, Section 2166.001(10).

1.1.63. *Utilities* means water, sewer, gas, electric, telecom, cable, and like services.

1.1.64. *Utility Providers* means any and all entities that TFC desires to provide Utilities to the Project.

1.1.65. *Warranty Report* means the comprehensive report of the findings of TAB pursuant to the inspections, and which must include, but not be necessarily limited to, a list of the items needing replacement, correction, or repair.

1.1.66. *Warranty Report Deadline* means the date that is three hundred thirty-five (335) days after the date that a Certificate of Substantial Completion has been issued as to the Work, or a discrete portion thereof, and by which date TAB shall deliver the warranty and guarantee phase services.

1.1.67. *Work* means the administration, procurement, materials, equipment, testing, and all services necessary for TAB, and/or its agents, to fulfill TAB's obligations under this Agreement.

II. SCOPE OF SERVICES

2.1. Scope of Services. TAB agrees to timely deliver the testing, adjusting, and balancing services described below, in accordance with this Agreement, the National Environmental Balancing Bureau (NEBB) Procedural Standards, and the Associated Air Balance Council (AABC) National Standards.

2.1.1. Review Phase. No later than the Deadline stated in the PMP, TAB shall timely deliver the following Design Tasks to TFC.

2.1.1.1. Consult with TFC staff and become thoroughly familiar with the project documentation.

2.1.1.2. Inspect and timely become thoroughly familiar with the Project Site.

2.1.1.3. Identify all codes, rules, regulations, other Site-related requirements, and coordination, that may affect the timely TAB services of the Project.

2.1.1.4. Receive and become familiar with requirements of the technical standards of TFC.

2.1.1.5. Conduct review of Construction Documents and provide comments at the agreed upon milestone submission schedule, coordinating with TFC, A/Es, CxA and CMR and collaborating with any consultant(s) throughout the Project.

2.1.1.6. Determine and identify to TFC which additional Subcontractor(s), if any, that are not engaged, or to be engaged, by TAB pursuant to this Agreement, will be necessary to complement the Professional Services in order to fulfill requirements of this Agreement.

2.1.1.7. Coordinate with TFC for the utilization of the EPMCS. If requested, assign appropriate TAB staff to receive instruction regarding the use of EPMCS.

2.1.2. Development of TAB Plan. TAB shall develop a TAB plan that will form the basis of the process to be followed throughout the construction and post-construction phases of the Project. The TAB plan will identify all related TAB activities and include roles and responsibilities for each team member (TFC, TAB, CxA, A/E, CMR), including Owner's Representatives, contractors, and vendors. TAB activities will include tests, procedures, meetings, documentation, scheduling, and sequencing of tasks and will be performed in accordance with NEBB Procedural Standards. The TAB plan will identify all systems and equipment to be examined. The TAB plan will be updated throughout project and incorporated into a final TAB report.

2.1.3. Construction Phase Services. TAB shall deliver the following management and administration of services to TFC during the construction phase of the Project as it specified in the UGC and as follows:

2.1.3.1. TAB shall have primary responsibility for execution of TAB plan and shall perform the following TAB construction related activities.

2.1.3.2. TAB shall plan and conduct a TAB kick-off meeting at the project site with all members of the Project Team. TAB shall also attend all project coordination meetings reasonably requested by TFC regarding the Work in order to facilitate the scheduling of the Work.

2.1.3.3. Prepare and maintain all forms and plans for field procedures and data to be recorded and incorporated into TAB reports.

2.1.3.4. Perform adequate preliminary site visits to determine Project readiness for TAB of the systems and perform all other actions reasonably necessary to fulfill the requirements of this Agreement.

2.1.3.5. Examine all contract documents and submittals for the equipment, systems, and controls within TAB scope of TAB.

2.1.3.6. Coordinate all TAB activities with the CMR, CxA, Contractor's subcontractors, and any other design professionals involved with the design and/or construction of the HVAC systems and equipment.

2.1.3.7. Upon notification that the HVAC systems and equipment have been started-up, TAB shall perform TAB activities in accordance with NEBB Procedural Standards and the TAB specifications.

2.1.3.8. Perform all controls verification including calibration and set points as indicated and proper control device and sensor settings, operation, installation, and arrangement.

2.1.3.9. Identify all deficiencies and issues encountered and deliver to Project Team written report. Upon written notification that all reported deficiencies have been remedied and corrected, TAB shall retest all parts of the HVAC systems that had been reported as being deficient.

2.1.3.9.1. If items previously reported to TAB are determined not to be remedied and/or corrected, TAB shall itemize each remaining deficiency in the final TAB report.

2.1.3.10. Deliver a periodic report to TFC for each site visit observation and review of the TAB work. Such periodic reports must describe in reasonable detail the current status of the following:

2.1.3.10.1. The completed Work in relation to Work Progress Schedule;

2.1.3.10.2. Project completion dates;

2.1.3.10.3. Percentage of completion of each discrete subpart of the Work; and

2.1.3.10.4. Any existing or potential deficiencies and/or discrepancies.

2.1.3.11. Develop a Final TAB Report.

2.1.3.12. Subject to the provisions of UGC, Subsection 12.1.1, no later than the Substantial Completion Inspection Deadline, TAB shall participate in a Substantial Completion Inspection of the CMR Work with the A/E, while accompanied by the TFC Project Manager, to determine whether said portion of the CMR Work has achieved Substantial Completion. In the event TFC and TAB conclude that the CMR Work, or any portion of the TAB scope thereof, has not performed or completed in accordance with the construction documents and contract, TAB shall prepare and deliver, no later than the Pre-Final Inspection Punchlist Deadline, a Pre-Final Inspection Punchlist to Contractor with a copy to TFC.

2.1.4. Warranty Phase Services. During the Warranty phase, TAB shall perform the following activities:

2.1.4.1. Conduct ninety (90) day follow-up and an opposite season follow-up to verify systems are operating as intended.

2.1.4.2. Prepare and submit a final TAB report to TFC that shall include all applicable TAB reports, checklists, test results, and associated drawings with Bluebeam notations.

2.1.5. TFC Approvals. Any provisions in this Agreement to the contrary notwithstanding, all consents and/or approvals by TFC shall be in its sole and absolute discretion, and must be in writing.

2.1.5.1. No changes to: (i) the scope of the Professional Services or (ii) the Consideration shall be valid or enforceable unless evidenced by a fully executed written amendment to this Agreement.

2.1.5.2. TAB is not authorized to commence providing any Professional Services to TFC or any Using Agency with respect to the Project unless and until an appropriate Notice to Proceed is delivered by TFC.

2.1.5.3. TFC, including by and through the TFC Project Manager, reserves the right to extend any of the deadlines set out above.

2.1.6. Inspections. TFC hereby reserves the right, if deemed appropriate by TFC in its sole discretion, to conduct reviews or inspections during the course of design and construction of the Project. However, TAB shall not be relieved of any of its obligations arising pursuant to this Agreement. No inspections of the Project conducted by TFC shall reduce the level or extent of TAB's responsibilities arising pursuant to this Agreement. Neither the approval and/or final acceptance of the Project or any Deliverables, the payment of any Pay Application of TFC shall constitute, nor be deemed, a release of TAB's obligation to perform and timely deliver the Professional Services and any Additional Services (i) in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances; or (ii) as required under this Agreement.

III. TERM AND TERMINATION

3.1. Duration. This Agreement shall be effective as of the Effective Date and shall terminate on December 31, 2022, unless extended by the parties by amendment to this Agreement or terminated earlier, as provided below.

3.2. Early Termination. This Agreement may be terminated by TFC for its convenience, in whole or in part, at any time without cause, upon delivery of a Notice of Termination to TAB at the address of record as specified in this Agreement. Upon receipt of a Notice of Termination, TAB will immediately cease all Professional Services and undertake to terminate any relevant Subcontracts and will incur no further expense related to this Agreement. Such early termination shall be subject to the equitable settlement of the respective interests of the parties accrued up to the date of termination.

IV. CONSIDERATION

4.1. Contract Limit–Fees and Expenses.

4.1.1. Fixed Fee. In exchange for the timely delivery of the Professional Services as specified by this Agreement, TAB shall be paid a fixed fee of One Hundred Sixty-Seven Thousand Seven Hundred Thirty and No/100 Dollars (\$167,730.00). Any Professional Services performed

or delivered by TAB prior to the Effective Date of this Agreement or after its termination cannot be compensated.

4.1.2. Submission of Pay Applications or Invoices. No more frequently than once per month, TAB shall submit a Pay Application to TFC for services performed and reasonable and necessary costs and expenses incurred through the last day of the previous month. TFC agrees to pay TAB in accordance with Chapter 2251 of the Texas Government Code, also known as the "Prompt Payment Act."

4.2. Proportional Payments. Payments shall be made to TAB monthly in proportion to the services performed. The compensation for services shall be at the following cumulative percentages at the completion and acceptance of each of the following phases of the Professional Services.

- | | |
|------------------------------------|-----------------------------|
| 4.2.1. Document Review Phase: | ten percent (10%). |
| 4.2.2. TAB plan development: | fifteen percent (15%). |
| 4.2.3. Construction Phase Service: | ninety percent (90%). |
| 4.2.4. TAB Report: | ninety-five percent (95%). |
| 4.2.5. Warranty Services: | one hundred percent (100%). |

4.3. Maximum Reimbursable Expenses. Reasonable lodging and traveling expenses shall be considered a Reimbursable Expense under this Agreement when professional and technical personnel of TAB are away from the cities in which they are permanently assigned and are conducting authorized business directly connected with this Agreement. For the purposes of this Agreement, no travel reimbursement shall be made for travel within 100 miles of the location identified as the principal place of business or branch office of TAB, except for overnight stays, which require prior TFC project manager approval. The maximum amount for each Reimbursable Expense for travel and lodging shall be the rates established by the Texas Comptroller of Public Accounts, and outlined in Textravel, <https://fm.x.cpa.state.tx.us/fmx/travel/txtravel/index.php>, formerly known as the State of Texas Travel Allowance Guide for state employees. No Reimbursable Expenses shall exceed actual cost. In addition to those items specifically identified above as a Reimbursable Expense, permit fees and associated costs, certain other incidental direct expenses including, but not limited to, copying, telephone, data, and express mail services, and rental of special equipment or tools required in connection with provision of the Professional Services for the Project, may constitute a Reimbursable Expense; provided however, TAB must obtain the written approval of TFC prior to incurring the expense. Approval may be granted only under those limited circumstances wherein such costs are not considered normal or customary basic services under this Agreement. All requests for reimbursement must be accompanied by such documentation which, in the judgment of the TFC, allows for complete substantiation of the costs incurred.

4.4. Notice of Depletion. Within seven (7) days of when the accumulated amount of Fees and Reimbursable Expenses reaches eighty percent (80%) of the maximum not-to-exceed contract amount(s), TAB shall deliver written notice thereof to TFC. Nothing herein shall be construed to require TFC to increase the approved maximum not-to-exceed contract amount(s) established pursuant to this Agreement.

4.5. Additional Services. Upon request by TFC for Additional Services, TAB shall prepare and submit a proposal for such Additional Services to TFC for approval. Additional Services shall be performed at a rate negotiated between TFC and TAB and must be approved by the parties by amendment to this Agreement. Any Additional Services performed or delivered by TAB prior to execution of the Agreement or amendment thereto, as applicable, cannot be compensated.

4.6. Payments to Subcontractors. For all services rendered, TAB's payment to Subcontractors is due within ten (10) days after receipt of payment from TFC and, when appropriate in the sole discretion of TFC, TFC may issue joint checks to TAB and Subcontractors.

V. ACKNOWLEDGEMENT, COVENANTS, AND AGREEMENTS

5.1. Acknowledgement, Covenants, and Agreements of TFC. TFC acknowledges, covenants, and agrees, as follows.

5.1.1. TFC Deliverables to TAB. TFC shall provide TAB a copy of, or reasonable access to, the following information and documentation regarding the Project.

5.1.1.1. The UGC.

5.1.1.2. Any Supplementary General Conditions.

5.1.1.3. Any Special Conditions.

5.1.1.4. Sample copies of the following:

5.1.1.4.1. contract forms; and

5.1.1.4. 2. bond forms.

5.1.1.5. Bidding information and instructions.

5.1.1.6. Minimum wage rates.

5.1.1.7. The PAR for inclusion in the Specifications.

5.1.1.8. Any maps and Drawings in the possession of TFC that reflect or depict Site boundaries, recorded easements, topography, utility locations, and such other documents in the possession of TFC that reflect Site conditions and/or restrictions which may impact the design and/or construction of the Project.

5.1.1.9. Any soil reports or traffic impact studies in the possession of TFC.

5.1.1.10. The Project Analysis, or equivalent thereof.

5.1.1.11. The Budget.

5.1.1.12. The Communication Protocol.

5.1.2. TFC Services to TAB. TFC shall provide, or cause to be provided, the following services to TAB.

5.1.2.1. Upon TAB's receipt of general and criminal background check clearance, assist TAB in obtaining such access to the Sites as is reasonably necessary to enable TAB to provide the Professional Services.

5.1.2.2. Designate the TFC Project Manager who will supervise the design and construction of the Project and the services being provided pursuant to this Agreement and the respective Contract Documents.

5.1.2.3. Provide intermediate reviews of the work product of TAB as necessary to allow TAB to proceed with delivery of the Professional Services in a timely manner.

5.2. Acknowledgements, Covenants, and Agreements of TAB. TAB acknowledges, covenants, and agrees as follows.

5.2.1. Timely Delivery of Conforming Services. TAB will, subject to Force Majeure events, as defined in Section 11.13 below, timely provide the Professional Services in conformity with, and as specified in, this Agreement, the UGC, the Supplementary General Conditions, any Special Conditions, and in the Construction Documents.

5.2.2. Modifications. Modifications to the Construction Documents which are made necessary by the errors and/or omissions of TAB shall be corrected by TAB at its sole cost and expense.

5.2.2.1. For purposes of this subsection, an omission is defined as any change or addition to the Construction Documents required to make the Project conform to its original design intent.

5.2.2.2. For purposes of this subsection, an error is defined as any change or addition to the Construction Documents where remediation of previously constructed or installed Work must take place in order to meet code and/or design intent or any omission that is caused by willful misconduct or gross negligence by TAB. In the event that TAB is determined to have been the cause of such an error, TAB shall bear the reasonable construction costs to resolve said error.

5.2.3. Limitation of Authority. TAB agrees that the TFC Project Manager shall not have any express or implied authority to vary or otherwise amend the terms and conditions of this Agreement in any way, or waive strict compliance with the terms and conditions of this Agreement, except as to the deadlines set out in Section 2.1 above, any deviation from which must be evidenced by the TFC Project Manager in writing.

5.2.4. TAB Safety. All TAB's and subcontractors conducting work for TFC shall abide by all OSHA rules and regulations provided by the Department of Labor, OSHA, Code of Federal Regulations, Chapter 29. Employees of TAB and subcontractors shall be trained in accordance with Chapter 29, Occupational Safety and Health Regulations. TAB and subcontractors shall inform the Contract Administrator of their Hazardous Electrical Energy Control, Lockout/Tag-out Procedure. TAB's procedure must meet or exceed TFC's procedure as determined by the Contract Administrator. Work shall not be done on energized electrical circuits, components or equipment. When de-energizing is impractical due to possible harm to personnel, equipment or facility damage, negative onsite or offsite environmental impact, or business interruption Contractor must follow OSHA requirements as detailed in OSHA Regulations 1910.331 – 1910.399.

5.2.5. Cooperation. All project managers, employees, and associated Subcontractors shall cooperate with and assist each other and all other Contractors and design professionals retained by TFC.

5.2.6. TAB Cooperation. TAB agrees to conduct all of its services under this Agreement by and through appropriate communications with the TFC Project Manager(s). No work, installation or other services shall be undertaken by TAB except with the prior written direction of the TFC Project Manager(s). TAB understands and agrees that work, installation or any other service performed without the prior written direction of the TFC Project Manager(s) is work outside the scope of this Agreement and shall be performed exclusively at TAB's risk. TAB agrees to employ competent personnel meeting the requirements outlined in the specifications, who shall be satisfactory to TFC. Personnel assigned to perform services under this Agreement may not be reassigned without the prior written approval by the TFC Project Manager(s). TFC may request that TAB replace unsatisfactory personnel, which request shall not be unreasonably denied. TAB agrees to cooperate and coordinate its work with that of other Contractors retained by owner. Upon discovery of an apparent conflict in the sequencing of work with another Contractor, TAB shall report the concern to the TFC Project Manager(s) who will resolve the conflict.

5.2.7. E-Verify. By entering into this Agreement, TAB certifies and ensures that it utilizes and will continue to utilize, for the term of this Agreement, the U.S. Department of Homeland Security's E-Verify system, in accordance with the U.S. Department of Homeland Security's rules, to determine the eligibility of: all persons employed to perform duties within the State of Texas, during the term of the Agreement; and all persons (including subcontractors) assigned by the TAB to perform work pursuant to the Agreement, within the United States of America. TAB shall provide, upon request of TFC and if available, an electronic or hardcopy screenshot of the confirmation or tentative non-confirmation screen containing the E-Verify case verification number for attachment to the Form I-9 for the three (3) most recent hires that match the criteria above, by the TAB, and TAB's subcontractors, as proof that this provision is being followed. If this certification is falsely made, the Agreement may be immediately terminated, at the discretion of TFC, and at no fault to TFC, with no prior notification. TAB shall also be responsible for the costs of any re-solicitation that TFC must undertake to replace the terminated Agreement. For persons not eligible for E-Verify screening, TAB (including sub-contractors) shall provide, upon

request by TFC, another form of documentation of proof of eligibility to work in the United States of America.

5.2.8. Identification of Project Manager and All Subcontractors. The Project Manager identified in the initial List of Project Manager and Subcontractors (hereinafter referred to as the "List") will supervise the efforts of the Contractor to timely provide TFC with the services enumerated in this TFC Contract No. 21-020-000. A copy of the List is attached hereto as **Exhibit E**, and incorporated for all purposes.

5.2.8.1. The Project Manager must be committed to the Project on a full- time basis. TFC reserves the right to approve the appointment of the Project Manager and to demand that the Project Manager, and any of TAB's employees or Subcontractors, be removed and replaced if, in the sole opinion of TFC, their performance on this Project or any other Projects, is and/or was not adequate or their continued involvement with the Project will, is, or has become, detrimental to the timely and successful completion of the Project, including but not limited to, for such reasons as: (i) any past or present violation of any statute, rule, regulation or ordinance of any city, county, the State of Texas, or the United States, or any other Laws and Regulations; (ii) TFC's reasonable belief that failure to obtain an acceptable criminal background check will occur; (iii) prior unsatisfactory performance on other TFC projects; and (iv) any other like reasons.

5.2.8.2. The Project Manager and Subcontractors identified in the List shall not be removed or replaced by TAB, nor shall any other Subcontractors be engaged by TAB, unless prior written consent is obtained from TFC, which consent shall not be unreasonably withheld, conditioned, or delayed.

5.2.9. Buy Texas. If TAB is authorized to make purchases under this Agreement, TAB certifies that TAB will buy Texas products, services, and materials when available at a comparable price and in a comparable period of time pursuant to Texas Government Code, Chapter 2155.

5.2.10. No Assumption. No approvals or acceptances by, or on behalf of, TFC shall be deemed to be an assumption of any responsibility by TFC for any defect, error or omission in said Deliverables or Professional Services.

5.2.11. No Guaranty. TAB does not control or guarantee the performance of any Contractor, provided however, TAB shall promptly notify TFC of any observation of a Contractor's or subcontractor's failure to perform their duties and responsibilities in accordance with the Construction Documents and Work Progress Schedule, and shall recommend to TFC candidate measure(s) to correct such failures.

5.2.12. Debts or Delinquencies Owed to the State. Any payment due under this Agreement may be withheld and applied toward payment of any debt that is owed to the State of Texas including, but not limited to, delinquent taxes and child support pursuant to Texas Government Code, Section 43.055.

5.2.13. General and Criminal Background Check.

5.2.13.1. TAB represents and warrants that neither TAB nor any of TAB's employees, have been convicted of a felony criminal offense, or of a crime involving moral turpitude, or that, if such a conviction has occurred, TAB has fully advised TFC in writing as to the facts and circumstances surrounding the conviction(s).

5.2.13.2. All of TAB's employees and Subcontractors that will perform any Professional Services on-site at a state-owned property may be subject to a criminal background check. Any expense associated with such criminal background check shall be borne by TAB.

5.2.14. Equal Opportunity. TAB shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin, disability, political affiliation, or religious belief. TAB shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, religion, age or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. TAB shall post in conspicuous places, available to employees or applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination subsection. TAB shall include the above provisions in all Subcontracts pertaining to the Professional Services.

5.2.15. No Advertising. TAB shall not advertise that it is doing business with TFC or use this Agreement as any sort of marketing or sales tool without the prior written consent of TFC.

5.2.16. No Warranties by TFC. TAB acknowledges that any and all tests, maps, reports, and drawings and any other documentation (hereinafter referred to collectively as "Reports") in the possession of TFC that reflect or depict any Site boundaries, recorded easements, topography, utility locations, and other Site conditions and/or restrictions which may impact TAB's prosecution of the Work were prepared solely for the benefit of TFC, and that TAB shall have no right to rely upon such and that any reliance thereon shall be at TAB's own risk. **TFC HEREBY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES AS TO THE ACCURACY OR COMPLETENESS OF THE ABOVE-MENTIONED REPORTS.**

5.2.17. No Outsourcing. All services under this Agreement shall be performed in the principal offices of the TAB and its consultants. If TAB or consultant offices exist out of the State of Texas, services shall be performed in offices within Texas in so much as proper expertise and timeliness can be accomplished. Services performed outside the State of Texas shall be limited to offices and personnel located in the United States. Outsourcing or subcontracting outside the United States shall not be permitted unless approved in writing by the TFC.

VI. WARRANTIES AND REPRESENTATIONS BY TAB

6.1. Warranties and Representations by TAB. TAB hereby makes the following warranties, representations and certifications, all of which are true, accurate and complete at the time of the Effective Date and throughout the term of the Agreement, and which shall be true, accurate and

complete with respect to each Deliverable. All representations and warranties discussed below shall survive the expiration or termination of this Agreement.

6.1.1. Compliance with All Laws. TAB shall procure and maintain for the duration of this Agreement any state, county, city, or federal license, authorization, insurance, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by TAB to provide the goods or services required by this Agreement. TAB will be responsible to pay all taxes, assessments, fees, premiums, permits, and licenses required by law. TAB agrees to be responsible for payment of any such government obligations not paid by its Subcontractors during performance of this Agreement. As part of its delivery of the Professional Services, TAB shall make itself familiar with and at all times shall observe and comply with all Laws and Regulations of all Governmental Authorities that in any manner affect performance under this Agreement.

6.1.2. Immigration Reform. The Immigration Reform and Control Act of 1986 and 1990 requires that all employees hired since 1986 provide proof of identity and employment eligibility before they can work in the United States. TFC is committed to complying with all applicable immigration laws of the United States and requires compliance by all contractors and subcontractors who contract with the State. TAB shall not place any employee of TAB at a worksite, nor shall TAB permit any employee, nor any Subcontractor, to perform any Professional Services on behalf of or for the benefit of the State, without first confirming said employee's authorization to lawfully work in the United States.

6.1.2.1. TAB warrants that TAB: (i) maintains and follows an established policy to verify the employment authorization of its employees and to ensure continued compliance for the duration of employment; (ii) has verified the identity and employment eligibility of all employees in compliance with applicable law; (iii) has established internal safeguards and reporting policies to encourage its employees to report any suspected violations of immigration policies or of immigration law promptly to TAB's senior management; and (iv) is without knowledge of any fact that would render any employee or Subcontractor ineligible to legally work in the United States.

6.1.2.2. TAB further acknowledges, agrees, and warrants that TAB: (i) has complied, and shall at all times during the term of the Agreement comply, in all respects with the Immigration Reform and Control Act of 1986 and 1990, the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, and all of the laws, rules, and regulations relating thereto; (ii) has properly maintained, and shall at all times during the term of the Agreement properly maintain, all records required by the Department of Homeland Security, Immigration and Customs Enforcement, including, without limitation, the completion and maintenance of the Form I-9 for each of TAB's employees; and (iii) has responded, and shall at all times during the term of the Agreement respond, in a timely fashion to any inspection requests related to such I-9 Forms. During the term of the Agreement, TAB shall, and shall cause its directors, officers, managers, agents and employees to, fully cooperate in all respects with any audit, inquiry, inspection or investigation that may be conducted by TFC or any state agency of TAB or any of its employees.

6.1.2.3. TAB acknowledges, agrees, and warrants that all Subcontractors permitted by it to perform Professional Services will be required to agree to these same terms as a condition to being awarded any Subcontract for such work.

6.1.3. Proficiency in Systems. TAB is proficient in the use of CAD systems and the EPMCS utilized by TFC.

6.1.4. Warranty of Services. All Professional Services provided by TAB pursuant to this Agreement will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

6.1.5. Warranty of Deliverables. All Deliverables shall be: (i) completed and delivered in a timely manner and in a manner consistent with standards in the applicable trade, profession, or industry; (ii) conform to or exceed the specifications set forth in this Agreement; and (iii) be fit for ordinary use, of good quality, and with no material defects.

6.1.6. Additional Warranties. In performing its Professional Services for the Project, TAB shall be bound by, and comply with, TAB's Proposal dated September 18, 2020, a copy of which is attached hereto as **Exhibit F** and incorporated herein for all purposes, to the extent any warranties, representations, and/or promises of additional services are made therein, and only to that extent.

6.1.7. Eligibility. TAB certifies that the individual or business entity named in this Agreement is not ineligible to receive the specified Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate pursuant to Texas Government Code, Section 2155.004(b).

6.1.8. Family Code Disclosure of Ownership. Pursuant to the requirements of the Texas Family Code, Section 231.006, regarding delinquent child support, the individual or business entity named in this Agreement is not ineligible to receive payment under this Agreement and, if applicable, TAB has provided, prior to its execution of this Agreement, the name and social security number of each such person (sole proprietors, firm owners, partners, or shareholders) holding at least twenty-five percent (25%) ownership of the business entity entering into this Agreement. TAB acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

6.1.9. Deceptive Trade Practices Act; Unfair Business Practices Disclosures. TAB has not been found liable of Deceptive Trade Practices Act violations under Chapter 17 of the Texas Business and Commerce Code or of any unfair business practice in any administrative hearing or court suit. TAB further certifies that it has no officers who have served as officers of other entities who have been found liable of Deceptive Trade Practices violations or of any unfair business practices in an administrative hearing or court suit. In the event that allegations of Deceptive Trade Practices violations under Chapter 17 of the Texas Business and Commerce Code or of any unfair business practices against either TAB or any of TAB's officers have occurred or are currently pending in an administrative proceeding or in a lawsuit filed with any court, then TAB has

disclosed all such matters to TFC and provided a brief description of each allegation, information regarding the administrative body or court before which the matter is pending, and the current status of the matter.

6.1.10. Disclosure of Former State Executives. Pursuant to Texas Government Code, Section 669.003 relating to contracting with an executive of a state agency, no Person who, in the past four (4) years served as an executive of TFC or any other state agency was involved with or has any interest in this Agreement or any Contract resulting from this Agreement. If TAB employs or has used the services of a former executive head of TFC or any other state agency, then TAB has provided the name of the former executive, the name of the state agency, the date of separation from the state agency, the position held with TAB, and the date of employment with TAB.

6.1.11. No Conflicts. TAB represents and warrants that TAB has no actual or potential conflicts of interest in providing services to the State of Texas under this TAB and that TAB's provision of services under this Agreement would not reasonably create an appearance of impropriety.

6.1.12. Financial Interest/Gifts. Pursuant to Texas Government Code Sections 572.051 and 2255.001 and Texas Penal Code Section 36.09, TAB has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Agreement. Pursuant to Texas Government Code Chapter 573 and Section 2254.032, if applicable, TAB certifies that TAB knows of no officer or employee of TFC, nor any relative within the second degree of consanguinity or affinity of an officer or employee of TFC, that has a financial interest in TAB's company or corporation. TAB further certifies that no partner, corporation, or unincorporated association which employs, retains or contracts with, or which may employ, retain, or contract with any of the above, has a financial interest in any entity with which TAB will be dealing on behalf of TFC.

6.1.13. Prior Employment. TAB knows of no officer or employee of TFC, nor any relative within the second degree of consanguinity or affinity of an officer or employee of TFC, that has a financial interest in TAB's firm or corporation. TAB further certifies that no partner, corporation, or unincorporated association that employs, retains or contracts with, or which may employ, retain, or contract with any of the above, has a financial interest in any entity with which TAB will be dealing on behalf of TFC pursuant to the Texas Government Code, Chapter 573 and Section 2254.032. Furthermore, TAB certifies and agrees that if it employs any former employee of TFC, such employee will perform no work in connection with this Agreement during the twelve (12) month period immediately following the employee's last date of employment at TFC.

6.1.14. Affirmation as to Submittals. Upon submittal to TFC of any documentation or data that was created or modified by TAB, including but not limited to Drawings, Specifications, and the Budget, all representations contained therein shall be true and accurate as to each such creation or modification.

6.1.15. Disaster Relief Contract Violation. Under Sections 2155.006 and 2261.053 of the Texas Government Code, TAB certifies that the individual or business entity named in the

response or Agreement is not ineligible to receive the specified Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

6.1.16. Excluded Parties. TAB certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.

6.1.17. Suspension and Debarment. TAB certifies that it and its principals are not suspended or debarred from doing business with the state or federal government as listed on the State of Texas Debarred Vendor List maintained by the Texas Comptroller of Public Accounts and the System for Award Management (SAM) maintained by the General Services Administration.

6.1.18. Entities that Boycott Israel. Pursuant to Section 2270.002 of the Texas Government Code, TAB certifies that either (i) it meets an exemption criteria under Section 2270.002; or (ii) it does not boycott Israel and will not boycott Israel during the term of this Agreement. TAB shall state any facts that make it exempt from the boycott certification.

6.1.19. Prohibition Against Contracting with Companies Engaged in Business with Iran, Sudan, or Foreign Terrorist Organizations. In accordance with Section 2251.152 of the Texas Government Code, TFC is prohibited from entering into a governmental contract (as defined in Texas Government Code Section 2252.151(3)) with a company that is identified on a list prepared and maintained under Texas Government Code Section 806.051, 807.051, or 2252.153. If contractor is on the above-referenced list the Contract will be considered void or voidable and TFC will not be responsible to pay Contractor for any work performed.

6.1.20. Human Trafficking Prohibition. Pursuant to Section 2155.0061 of the Texas Government Code, TAB certifies that it is not ineligible to receive this agreement and acknowledges that this Agreement may be terminated and payment withheld if TAB's certification in this matter is inaccurate. TFC may not award a contract, including a contract for which purchasing authority is delegated to a state agency, that includes proposed financial participation by a person who, during the five-year (5) period preceding the date of the award, has been convicted of any offense related to the direct support or promotion of human trafficking.

6.1.21. Use of State Property. TAB is prohibited from using State Property for any purpose other than performing services authorized under the Agreement. State Property includes, but is not limited to: TFC's office space, identification badges, TFC information technology equipment and networks (e.g., laptops, portable printers, cell phones, iPads, external hard drives, data storage devices, any TFC issued software, and the TFC Virtual Private Network (VPN client)), and any other resources of TFC. TAB shall not remove State Property from the continental United States. In addition, TAB may not use any computing device to access TFC's network or e-mail while outside of the continental United States. TAB shall not perform any maintenance services on State Property unless the Agreement expressly authorizes such services. During the time that State Property is in the possession of TAB, TAB shall be responsible for (i) all repair and replacement charges incurred by TFC that are associated with loss of State

Property or damage beyond normal wear and tear; and (ii) all charges attributable to TAB's use of State Property that exceeds the scope of the Agreement. TAB shall fully reimburse such charges to TFC within ten (10) calendar days of TAB's receipt of TFC's notice of amount due. Use of State Property for a purpose not authorized by agreement shall constitute breach of contract and may result in termination of the agreement and the pursuit of other remedies available to TFC under contract, at law, or in equity.

VII. STATE FUNDING

7.1. State Funding. This Agreement shall not be construed as creating any debt on behalf of the State of Texas and/or TFC in violation of TEX. CONST. art. III, § 49. In compliance with TEX. CONST. art. VIII, § 6, it is understood that all obligations of TFC hereunder are subject to the availability of state funds. If such funds are not appropriated or become unavailable, this Agreement may be terminated. In that event, the parties shall be discharged from further obligations, subject to the equitable settlement of their respective interests accrued up to the date of termination. Furthermore, any damages due under this Agreement should not exceed the amount of funds appropriated for payment under this Agreement, but not yet paid to TAB, for the fiscal year Budget in existence at the time of the breach.

VIII. COPYRIGHTS AND TRADEMARKS

8.1. Copyrights. TAB agrees that all Deliverables provided pursuant to this Agreement are subject to the rights of TFC in effect on the date of execution of this Agreement. These rights include the right to use, duplicate and disclose such subject matter and data, in whole or in part, in any manner for alterations, additions, remodels or maintenance; and to have others do so including production of Deliverables in response to a public information request pursuant to Texas Government Code, Chapter 552. If the Deliverables produced by TAB are subject to copyright protection, TAB hereby grants to TFC a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such and to authorize others to do so. TAB shall include appropriate provisions to achieve the purpose of this condition in all Subcontracts entered into that produce information subject to copyright protection.

8.1.1. Disclaimers. All such Deliverables furnished by TAB pursuant to this Agreement shall be considered instruments of its services in respect to the Project. It is understood that TAB does not represent such Deliverables to be suitable for reuse on any other study or for any other purpose(s). If TAB, at TFC's request and authorization, verifies or adapts TAB's Deliverables for TFC's use on another study, TAB shall be compensated for redesign or new design, bidding, and construction administration services.

8.1.2. Delivery to TFC. TAB shall promptly provide copies of the Deliverables to TFC upon completion, termination, or cancellation of this Agreement for any reason, including all copies of the Deliverables in any form or medium specified by TFC in this Agreement, whether written, digital, or electronic.

8.1.3. TFC Right to Use. Any provision herein to the contrary notwithstanding, TFC shall be authorized to make subsequent use of the Deliverables for any and all future renovations, modifications, alterations, maintenance, repairs, and the like of the Project.

8.2. No Use of Name or Trademark. TAB agrees not to make any written use of or reference to TFC's name or registered or unregistered trademarks for any marketing, public relations, advertising, display or other business purpose or make any use of TFC's facilities for any activity related to the express business purposes and interests of TFC pursuant to this Agreement, without the prior written consent of TFC, which consent may be withheld or granted in TFC's sole discretion.

IX. RECORDS, AUDIT, PROPRIETARY INFORMATION, AND PUBLIC DISCLOSURE

9.1. Books and Records. TAB shall keep and maintain under generally accepted accounting principles full, true and complete records, as are necessary to fully disclose to TFC or the United States Government, or their authorized representatives, upon audits or reviews, sufficient information to determine compliance with the terms and conditions of this Agreement and all state and federal regulations and statutes.

9.2. Inspections and Audits. TAB agrees that all relevant records related to this Agreement or any work product under this Agreement, including practices of its Subcontractors, shall be subject, at any reasonable time, to inspection, examination, review, audit, and copying at any office or location of TAB where such records may be found, with or without notice by the Texas State Auditor's Office ("SAO"), the contracting agency or its contracted examiners, or the Office of the Texas Attorney General, and with regard to any federal funding, the relevant federal agency, the Comptroller General, the General Accounting Office, the Office of the Inspector General, or any of their authorized representatives. All Subcontracts shall reflect the requirements of this section. In addition, pursuant to Texas Government Code, Section 2262.003, the SAO may conduct an audit or investigation of any entity receiving funds under this Agreement, including direct payments to TAB and indirect payments under a Subcontract to this Agreement; acceptance of such monies acts as acceptance of SAO authority, under legislative audit committee direction, to audit and investigate related to those funds and the entity subject to the audit or investigation must provide SAO with access to any information SAO considers relevant to the scope of the audit or investigation.

9.3. Records Retention. All records relevant to this Agreement shall be retained for a minimum of seven (7) years. This retention period runs from the date of payment for the relevant goods or services by TFC, or from the date of termination of the Agreement, whichever is later. Retention time shall be extended when an audit is scheduled or in progress for a period reasonably necessary to complete an audit and/or to complete any administrative proceeding or litigation which may ensue.

9.4. Confidentiality Provisions Applicable to TAB.

9.4.1. Protection of Confidential Information. TAB hereby acknowledges, understands and agrees (i) that in the course of conducting its due diligence regarding the provision of Professional Services to TFC, certain Confidential Information, as defined below, will be disclosed to TAB; and (ii) that whether developed by TFC or others employed by or associated with TFC, all Confidential Information is, and shall remain, the exclusive and confidential property of TFC, and shall be at all times regarded, treated and protected as such by TAB in accordance with this Agreement. Failure to mark any information “Confidential” shall not affect the confidential nature of such information.

9.4.2. Definition of Confidential Information. “Confidential Information” shall mean all information, whether or not originated by TFC, which is used in, or a part of, TFC’s business and operations and is (i) proprietary to, about, or created by TFC; (ii) gives TFC some competitive advantage or the opportunity of obtaining such advantage or the disclosure of which could be detrimental to the interests of TFC; (iii) designated as “Confidential Information” by TFC, or from all the relevant circumstances should reasonably be assumed by TAB to be confidential and proprietary to TFC; or (iv) not generally known by TAB. Such Confidential Information includes, but is not limited to, the following types of information and other information of a similar nature (whether or not reduced to writing or designated as confidential).

9.4.2.1. Work product resulting from, or related to, work, projects, or services performed or to be performed by TFC for TAB and/or for actual and potential Using Agencies that are related to the business and/or operations of TFC, including but not limited to, methods, processes, procedures, analysis, techniques, and audits used in connection therewith.

9.4.2.2. Computer software of any type or form in any stage of actual or anticipated research and development, including, but not limited to, programs and program modules, routines and subroutines, processes, algorithms, design concepts, design specifications (design notes, annotations, documentation, flowcharts, coding sheets, and the like), source code, object code and load modules, programming, program patches, and system designs.

9.4.2.3. Information relating to TFC’s proprietary rights prior to any public disclosure thereof, including but not limited to, the nature of the proprietary rights, production data, technical and engineering data, test data and test results, the status and details of research and development of products and services, and information regarding acquiring, protecting, enforcing and licensing proprietary rights (including patents, copyrights and trade secrets).

9.4.2.4. Internal personnel and financial information, vendor names and other vendor information (including vendor characteristics, services, and agreements), customer lists and contacts, business plan(s), purchasing and internal cost information, internal services and operational manuals, pricing, marketing, and all other manner and methods of conducting TFC’s business.

9.4.2.5. Marketing and development plans, price and cost data, price and fee amounts, pricing and billing policies, quoting procedures, marketing techniques and methods of obtaining business, forecasts and forecast assumptions and volumes, and future plans and potential strategies of TFC which have been or are being discussed.

9.4.2.6. Any information obtained from TFC regarding its pursuit or negotiation of agreements with any potential “Contracting Person” regarding a potential “Qualifying Project” as those terms are defined in Texas Government Code, Section 2267.001, as the same may be amended from time to time, including, but not necessarily limited to, the names of the Contracting Person, including their representatives, (collectively, “Business Customers”); the parties to and substance of any agreements between TFC and said Business Customers; services and data provided, or to be provided, by or to said Business Customers; and the type, quantity and specifications of products and services purchased, leased, licensed or received, or to be purchased, leased, licensed or received, by Business Customers.

9.4.2.7. “Confidential Information” shall not include information that: (i) is or becomes available to the public generally, other than as a result of disclosure by TAB in breach of the terms of this Agreement; (ii) becomes available to TAB from a source (other than TFC) which source is not, to the best of TAB’s knowledge, subject to any legally binding obligation to keep the same confidential; or (iii) has been independently acquired or developed by TAB.

9.4.3. Covenants. As a consequence of TAB’s acquisition or anticipated acquisition of Confidential Information, TAB will occupy a position of trust and confidence to TFC with respect to TFC’s affairs and business. In view of the foregoing and of the mutual consideration to be provided to each party, TAB agrees that it is reasonable and necessary that it make the following covenants.

9.4.3.1. Both during and forever after the performance of its due diligence investigation, TAB will not disclose Confidential Information to any Person or entity other than as necessary in carrying out its duties on behalf of TFC and/or due diligence investigation, without first obtaining TFC’s prior, written consent, and TAB will take all reasonable precautions to prevent inadvertent disclosure of such Confidential Information. This prohibition against TAB’s disclosure of Confidential Information includes, but is not limited to, disclosing the fact that any similarity exists between the Confidential Information and information independently developed by another Person or entity, and TAB understands that such similarity does not excuse TAB from abiding by its covenant or other obligations pursuant to this Agreement.

9.4.3.2. Both during and after the conduct of its due diligence investigation, TAB will not use, copy, or transfer Confidential Information other than as necessary in carrying out its duties on behalf of TFC and/or due diligence investigation, without first obtaining prior written consent of TFC, and will take all reasonable precautions to prevent inadvertent use, copying, or transfer of such Confidential Information. This prohibition against TAB’s use, copying, or transfer of Confidential Information includes, but is not limited to, selling, licensing or otherwise exploiting, directly or indirectly, any products or services (including software in any form) that embody or are derived from Confidential Information.

9.4.3.3. TAB agrees not to make any written use of or reference to TFC’s name or registered or unregistered trademarks (or any names under which TFC conducts business or operations) for any marketing, public relations, advertising, display or other business purpose or make any use of TFC’s facilities for any activity related to the express business purposes and

interests of TFC pursuant to this Agreement, without the prior written consent of TFC, which consent may be withheld or granted in TFC's sole and absolute discretion.

9.4.3.4. TAB agrees not to utilize, either directly or indirectly, any Confidential Information in order to facilitate or create direct business relationships with Business Customers of TFC.

9.4.4. Open Records Request or Similar Requests for Information. In the event that TAB receives a request to disclose all or any part of the Confidential Information under the terms of the Texas Public Information Act, a subpoena or other order issued by a court of competent jurisdiction or by another governmental agency, TAB shall: (i) notify TFC of the existence, terms, and circumstances surrounding such a request within one (1) business day of the receipt of the request; (ii) notify the entity requesting the information that such a request for information should be submitted to TFC, not TAB; (iii) provide the entity requesting the information the contact information of TFC's public information coordinator; and (iv) forward all responsive information to TFC within two (2) business days of the receipt of the request.

9.5. Confidentiality Provisions Applicable to TFC. Subject to the provisions of Section 9.6 below, TFC shall keep confidential all information, in whatever form, produced, prepared, or observed by TAB to the extent that such information is: (i) confidential by law; (ii) marked or designated "confidential," or words to that effect, in a font size no smaller than 14 point, by TAB; or (iii) information that TFC is otherwise required to keep confidential by this Agreement.

9.6. Public Records. Notwithstanding any provisions of this Agreement to the contrary, TAB understands that TFC will comply with the Texas Public Information Act, Texas Government Code, Chapter 552. If contacted by TFC, TAB will cooperate with TFC in the production of documents responsive to the request. TAB agrees to provide the documents responsive to the request in the format and within the time frame specified by TFC. TAB may request that TFC seek an opinion from the Office of the Texas Attorney General. However, the final decision whether to seek a ruling from the Office of the Texas Attorney General will be made by TFC in its sole discretion to comply with the legal requirements of the Texas Public Information Act. Additionally, TAB will notify TFC's general counsel within twenty-four (24) hours of receipt of any third-party requests for information written, produced, collected, assembled, or maintained in connection with this Agreement and/or any amendment to this Agreement. This Agreement and/or any amendment to this Agreement and all data and other information generated or otherwise obtained in its performance is subject to the Texas Public Information Act. TAB agrees to maintain the confidentiality of information received from the State of Texas during the performance of this Agreement, including information which discloses confidential personal information particularly, but not limited to, social security numbers. Furthermore, TAB is required to make any information created or exchanged with the State pursuant to this Agreement, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public as specified by TFC at no additional charge to the State.

X. INSURANCE

10.1. Insurance Requirements. All persons who enter into an agreement to provide professional services (hereinafter referred to as “Agreement”), including, but not limited to, professional engineering services and/or professional architectural services, as defined in Texas Government Code, Chapter 2254, Subchapter A (hereinafter collectively referred to as “TAB”) with the State of Texas, by and through the Texas Facilities Commission (hereinafter referred to as “TFC”), must comply with the insurance requirements established by the particular program area of TFC before the TAB is authorized to commence providing those professional services.

10.2. Required Insurance Coverages. The required insurance coverages for this particular project are as follows.

10.2.1. Workers’ Compensation and Employers’ Liability Insurance. By execution of an Agreement, TAB thereby certifies, pursuant to Texas Labor Code Section 406.096(a), that TAB provides workers’ compensation and employers’ liability insurance for all employees employed on this public project with limits of not less than: (i) \$1,000,000 each accident; (ii) \$1,000,000 disease each employee; and (iii) \$1,000,000 disease policy limit.

10.2.1.1. Pursuant to Texas Labor Code Section 406.096(b), TAB shall require each Subcontractor to certify in writing to the TAB that said Subcontractor provides workers’ compensation and employers’ liability insurance for all of Subcontractor’s employees employed on this public project. In keeping with Sections 5.2.8 and 5.2.9 of **Exhibit A**, the 2015 Uniform General Conditions, Owner is entitled, upon request and without expense, to receive copies of Subcontractor’s written certifications.

10.2.1.2. The policy must include an Other States Endorsement to include the State of Texas if TAB’s business is domiciled outside the State of Texas.

10.2.1.3. The policy shall be endorsed to include Waiver of Subrogation in favor of TFC.

10.2.2. Commercial General Liability. Commercial general liability insurance coverage including premises; operations; blanket contractual liability coverage assumed under the Agreement and all contracts relative to the Project, including independent contractor’s liability pursuant to unamended ISO, or its equivalent; products and completed operations; and extended to include explosion, collapse, and underground hazards, with a combined single limit of \$1,000,000 per occurrence for coverages A and B; and a general aggregate of \$2,000,000.

10.2.2.1. The policy shall include endorsement CG2503, Amendment of Aggregate Limits of Insurance (per Project), or its equivalent.

10.2.2.2. The policy shall be endorsed to include Additional Insured status in favor of TFC.

10.2.2.3. The policy shall be endorsed to include Waiver of Subrogation in favor of TFC.

10.2.2.4. The policy shall be endorsed to include thirty (30) Day Notice of Cancellation, ten (10) Days for Non-Payment of Premium, in favor of TFC.

10.2.3. Business Automobile Liability Insurance. Business automobile liability coverage for all owned, non-owned, and hired vehicles with a minimum combined single limit of \$1,000,000 per accident for bodily injury and property damage. Alternate acceptable limits are \$1,000,000 bodily injury per person, \$1,000,000 bodily injury per accident, and at least \$1,000,000 property damage liability per accident.

10.2.3.1. No aggregate shall be permitted.

10.2.3.2. Such insurance must include coverage for loading and unloading hazards.

10.2.3.3. The policy shall be endorsed to include Additional Insured status in favor of TFC.

10.2.3.4. The policy shall be endorsed to include Waiver of Subrogation in favor of TFC.

10.2.3.5. The policy shall be endorsed to include thirty (30) Day Notice of Cancellation, ten (10) Days for Non-Payment of Premium, in favor of TFC.

10.2.4. Architect/Engineers Professional Liability Insurance.

10.2.4.1. Architect/Engineers professional liability/errors and omissions coverage with a minimum limit of \$1,000,000 per claim and in the aggregate to pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages by reason of any negligent act, error, or omission committed with respect to plans, maps, drawings, analysis, reports, surveys, change orders, designs, or specifications prepared by the insured.

10.2.4.2. TAB shall maintain this coverage for the duration of this Agreement or for not less than twenty-four (24) months following completion of the Project, whichever is longer.

10.2.4.3. The policy shall be endorsed to include thirty (30) Day Notice of Cancellation, ten (10) Days for Non-Payment of Premium, in favor of TFC.

10.2.5. Umbrella Liability Insurance. Umbrella liability insurance for a period not to expire or terminate prior to the expiration of all warranty periods, insuring Architect/Engineer for an amount of not less than \$1,000,000, which provides coverage at least as broad as, and applies in excess and follows form of, the primary liability coverages required hereinabove. The policy shall provide coverage where underlying primary insurance coverage limits are exhausted or otherwise unavailable or inadequate to cover a loss.

10.3. General Requirements for All Insurance. The following provisions shall apply to all insurance requirements.

10.3.1. Deductibles and Self-Insured Retentions. TAB shall be responsible for all deductibles and self-insured retentions, if any, stated in the policies. All deductibles and self-insured retentions shall be disclosed on the certificates of insurance.

10.3.2. Claims–Made Policies. If coverage is underwritten on a claims-made basis, the retroactive date for the policy and all renewals shall be coincident with the date of the Agreement and the certificate of insurance shall state that the coverage is claims-made and the retroactive date. Any premiums for this extended reporting period shall be paid by TAB.

10.3.3. Additional Policy Requirements. In the event the primary insurance policy does not so provide, TAB shall obtain and maintain endorsements for each deficient policy, or provide such other document(s) as may be approved in advance by TFC, that satisfy all of the following requirements.

10.3.3.1. Naming “Texas Facilities Commission, P.O. Box 13047, Austin, Texas 78711, its officials, directors, employees, representatives, and volunteers” as additional insureds, provided however, this requirement does not apply to professional liability insurance or workers’ compensation insurance.

10.3.3.2. The policy, or such other document(s) as may be acceptable to TFC, must obligate the insurer, or a third-party acceptable to TFC, to notify the Texas Facilities Commission, Attention: Insurance Specialist, P.O. Box 13047, Austin, Texas 78711, or E-Mail to Insurance@tfc.state.tx.us, of any (i) non-renewal; (ii) cancellation; or (iii) material changes, in writing, as soon as is reasonably possible prior to any such non-renewal, cancellation or change.

10.3.3.3. “Material Change” means any of the following changes to the Policy during the term of the Policy: (i) a change in the Policy period; (ii) a material revision to, or removal of, a coverage section; (iii) a reduction of the amount of limits of insurance, provided such reduction is not the result of payment of damages, medical expenses, or claim expenses; or (iv) an increase of the amount of any self-insured retention(s).

10.3.3.4. As to those policies wherein TFC is an additional insured, said insurance coverages must be primary and non-contributing with respect to insurance or self-insurance carried by TFC, if any.

10.3.4. No Commencement of Work. TAB shall not, nor allow any Subcontractor(s) to, commence the performance of Professional Services under this Agreement until the proof of satisfaction of the insurance requirements has been received and approved by TFC. However, any approval of the proof of satisfaction of the insurance requirements by TFC shall not relieve or decrease the liability of TAB hereunder.

10.3.5. Qualifications of Insurer. Insurance shall be written by a company licensed to do business in the State of Texas at the time the policy is issued and renewed, and shall be written by a company with an A.M. Best rating of A- or better.

10.3.6. No Cancellation or Lapse. TAB shall not cause or permit any required insurance to cancel or lapse prior to the expiration of all warranty periods, provided however, policy duration for architects/engineers professional liability/errors & omissions coverage is not governed by this provision. TAB must update all expired policies prior to submission of any Application for Payment.

10.3.7. Notice of Erosion. TAB shall provide TFC with thirty (30) days written notice of erosion of any aggregate limits below the minimum amounts required by the Agreement.

10.3.8. Right to Review. TFC reserves the right to review the insurance requirements and to require deletion, revision, and/or modification of particular policy terms, conditions, limitations, or exclusions (except where policy provisions are established by law or regulations that are binding upon TFC, TAB, or the underwriter) on any such policies when deemed necessary and prudent by TFC based upon changes in statutory law, court decisions, or the claims history of the industry and/or of TAB, provided however, such modifications must be commercially available to TAB. TFC shall make an equitable adjustment to the Contract Sum for any additional cost resulting therefrom.

10.3.9. Losses Paid by TAB. Actual losses not covered by the required insurance shall be paid by TAB.

10.3.10. Failure to Obtain, Maintain or Renew. Failure to timely obtain, maintain and/or renew the insurance policies as required may, at the sole discretion of TFC, subject TAB to, among all other available remedies, at law and in equity, the following.

10.3.10.1. Disqualification from eligibility to participate in any other or future projects with TFC.

10.3.10.2. Suspension of Work for cause.

10.3.10.3. In the event TAB fails to timely renew or pay any of the renewal premiums for any expiring policies, TFC shall have the right (but not the obligation) to: (i) make such payments; and/or (ii) acquire replacement coverage, and thereafter set off the amount(s) or costs thereof against the next payment(s) coming due to TAB under the Agreement or under any other agreement between TFC and TAB.

10.3.10.4. TFC may withhold any payments due to TAB from this Project or any other TFC project until satisfaction is achieved.

10.3.11. TFC a Third-Party Beneficiary. TFC shall be a third-party beneficiary of any agreement(s) between TAB and any and all Persons who procure, or cause to be procured, the above-described insurance coverages, and all renewals thereof, for the Project.

10.3.12. Required Insurance Coverages No Effect On Indemnifications. The insurance and insurance limits required herein shall not be deemed as a limitation on TAB's liability under the indemnifications granted to TFC.

10.3.13. No Warranty That Insurance Limits Will Be Adequate to Fully Protect TAB. The insurance requirements set out herein shall not be interpreted as any representation or warranty that the insurance coverage and limits will necessarily be adequate to fully protect TAB.

XI. MISCELLANEOUS PROVISIONS

11.1 Indemnification.

11.1.1. **ACTS OR OMISSIONS.** TAB SHALL INDEMNIFY AND HOLD HARMLESS TFC, THE STATE OF TEXAS AND CUSTOMERS, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED COSTS, ATTORNEY FEES, AND EXPENSES ARISING OUT OF, OR RESULTING FROM ANY ACTS OR OMISSIONS OF TAB OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE AGREEMENT AND ANY PURCHASE ORDERS ISSUED UNDER THE AGREEMENT. THE DEFENSE SHALL BE COORDINATED BY TAB WITH THE OFFICE OF THE ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND TAB MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE ATTORNEY GENERAL. TAB AND TFC AGREE TO FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. THIS SECTION IS NOT INTENDED TO AND SHALL NOT BE CONSTRUED TO REQUIRE TAB TO INDEMNIFY OR HOLD HARMLESS THE STATE OR TFC FOR ANY CLAIMS OR LIABILITIES RESULTING FROM THE NEGLIGENT ACTS OR OMISSIONS OF TFC OR ITS EMPLOYEES (TEX GOV'T CODE SECTION 2254.0031).

11.1.2. **ENGINEERING AND ARCHITECTURE.** TAB SHALL INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND TFC, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED DAMAGES, COSTS, ATTORNEY FEES, AND EXPENSES TO THE EXTENT CAUSED BY, ARISING OUT OF, OR RESULTING FROM ANY ACTS OF NEGLIGENCE, INTENTIONAL TORTS, WILLFUL MISCONDUCT, PERSONAL INJURY OR DAMAGE TO PROPERTY, AND/OR OTHERWISE RELATED TO TAB'S PERFORMANCE, AND/OR FAILURES TO PAY A SUBCONTRACTOR OR SUPPLIER BY THE TAB OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, CONSULTANTS UNDER CONTRACT TO TAB, OR ANY OTHER ENTITY OVER WHICH THE CONTRACTOR EXERCISES CONTROL, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE AGREEMENT. THE DEFENSE SHALL BE COORDINATED BY TAB WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY

LAWSUIT AND TAB MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE TEXAS ATTORNEY GENERAL. TAB AND TFC AGREE TO FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. THIS SECTION IS NOT INTENDED TO AND SHALL NOT BE CONSTRUED TO REQUIRE TAB TO INDEMNIFY OR HOLD HARMLESS THE STATE OR TFC FOR ANY CLAIMS OR LIABILITIES RESULTING FROM THE NEGLIGENT ACTS OR OMISSIONS OF TFC OR ITS EMPLOYEES (TEX GOV'T CODE SECTION 2254.0031).

11.1.3. INFRINGEMENTS. TAB SHALL INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND TFC, AND/OR THEIR EMPLOYEES, AGENTS, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL THIRD PARTY CLAIMS INVOLVING INFRINGEMENT OF UNITED STATES PATENTS, COPYRIGHTS, TRADE AND SERVICE MARKS, AND ANY OTHER INTELLECTUAL OR INTANGIBLE PROPERTY RIGHTS IN CONNECTION WITH THE PERFORMANCES OR ACTIONS OF TAB PURSUANT TO THIS AGREEMENT. TAB AND TFC AGREE TO FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. TAB SHALL BE LIABLE TO PAY ALL COSTS OF DEFENSE INCLUDING ATTORNEYS' FEES. THE DEFENSE SHALL BE COORDINATED BY TAB WITH THE OFFICE OF THE ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND TAB MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE ATTORNEY GENERAL. TAB SHALL HAVE NO LIABILITY UNDER THIS SECTION IF THE ALLEGED INFRINGEMENT IS CAUSED IN WHOLE OR IN PART BY: (i) USE OF THE PRODUCT OR SERVICE FOR A PURPOSE OR IN A MANNER FOR WHICH THE PRODUCT OR SERVICE WAS NOT DESIGNED, (ii) ANY MODIFICATION MADE TO THE PRODUCT WITHOUT TAB'S WRITTEN APPROVAL, (iii) ANY MODIFICATIONS MADE TO THE PRODUCT BY THE TAB PURSUANT TO TFC'S SPECIFIC INSTRUCTIONS, (iv) ANY INTELLECTUAL PROPERTY RIGHT OWNED BY OR LICENSED TO TFC, OR (v) ANY USE OF THE PRODUCT OR SERVICE BY TFC THAT IS NOT IN CONFORMITY WITH THE TERMS OF ANY APPLICABLE LICENSE AGREEMENT. IF TAB BECOMES AWARE OF AN ACTUAL OR POTENTIAL CLAIM, OR TFC PROVIDES TAB WITH NOTICE OF AN ACTUAL OR POTENTIAL CLAIM, TAB MAY (OR IN THE CASE OF AN INJUNCTION AGAINST TFC, SHALL), AT TAB'S SOLE OPTION AND EXPENSE; (i) PROCURE FOR TFC THE RIGHT TO CONTINUE TO USE THE AFFECTED PORTION OF THE PRODUCT OR SERVICE, OR (ii) MODIFY OR REPLACE THE AFFECTED PORTION OF THE PRODUCT OR SERVICE WITH FUNCTIONALLY EQUIVALENT OR SUPERIOR PRODUCT OR SERVICE SO THAT TFC'S USE IS NON-INFRINGEMENT. THIS SECTION IS NOT INTENDED TO AND SHALL NOT BE CONSTRUED TO REQUIRE TAB TO INDEMNIFY OR HOLD HARMLESS THE STATE OR TFC FOR ANY CLAIMS OR LIABILITIES RESULTING FROM THE NEGLIGENT ACTS OR OMISSIONS OF TFC OR ITS EMPLOYEES (TEX GOV'T CODE SECTION 2254.0031).

11.1.4. TAXES/WORKERS' COMPENSATION/UNEMPLOYMENT INSURANCE – INCLUDING INDEMNITY. TAB AGREES AND ACKNOWLEDGES THAT DURING THE EXISTENCE OF THIS AGREEMENT, TAB SHALL BE ENTIRELY RESPONSIBLE FOR THE LIABILITY AND PAYMENT OF TAB'S AND TAB 'S EMPLOYEES' TAXES OF WHATEVER KIND, ARISING OUT OF THE PERFORMANCES IN THIS AGREEMENT. TAB AGREES TO COMPLY WITH ALL STATE AND FEDERAL LAWS APPLICABLE TO ANY SUCH PERSONS, INCLUDING LAWS REGARDING WAGES, TAXES, INSURANCE, AND WORKERS' COMPENSATION. TFC AND/OR THE STATE SHALL NOT BE LIABLE TO THE TAB, ITS EMPLOYEES, AGENTS, OR OTHERS FOR THE PAYMENT OF TAXES OR THE PROVISION OF UNEMPLOYMENT INSURANCE AND/OR WORKERS' COMPENSATION OR ANY BENEFIT AVAILABLE TO A STATE EMPLOYEE OR EMPLOYEE OF ANOTHER GOVERNMENTAL ENTITY CUSTOMER. TAB AGREES TO INDEMNIFY AND HOLD HARMLESS TFC, THE STATE OF TEXAS AND/OR THEIR EMPLOYEES, AGENTS, REPRESENTATIVES, CONTRACTORS, AND/OR ASSIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED COSTS, ATTORNEYS' FEES, AND EXPENSES, RELATING TO TAX LIABILITY, UNEMPLOYMENT INSURANCE AND/OR WORKERS' COMPENSATION IN ITS PERFORMANCE UNDER THIS AGREEMENT. TAB SHALL BE LIABLE TO PAY ALL COSTS OF DEFENSE INCLUDING ATTORNEYS' FEES. THE DEFENSE SHALL BE COORDINATED BY TAB WITH THE OFFICE OF THE ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND TAB MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE ATTORNEY GENERAL. TAB AND TFC AGREE TO FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. THIS SECTION IS NOT INTENDED TO AND SHALL NOT BE CONSTRUED TO REQUIRE TAB TO INDEMNIFY OR HOLD HARMLESS THE STATE OR TFC FOR ANY CLAIMS OR LIABILITIES RESULTING FROM THE NEGLIGENT ACTS OR OMISSIONS OF TFC OR ITS EMPLOYEES (TEX GOV'T CODE SECTION 2254.0031).

11.2. Historically Underutilized Businesses ("HUBs"). In accordance with state law, it is TFC's policy to assist HUBs, whenever possible, to participate in providing goods and services to the agency. TFC encourages those parties with whom it contracts for the provision of goods and services to adhere to this same philosophy in selecting subcontractors to assist in fulfilling TAB's obligations with TFC. If TAB subcontracts with others for some or all of the services to be performed under this Agreement, TAB shall comply with all HUB requirements pursuant to Chapter 2161 of the Texas Government Code. A copy of the Approved HUB Subcontracting Plan ("HSP") is attached hereto as **Exhibit G**, and incorporated herein for all purposes. When required, TAB shall submit an updated HUB Subcontracting Plan. Upon TFC approval of HSP update(s), such update(s) shall become, without further notice or action, a part of the incorporated **Exhibit G**. A copy of the HUB Subcontracting Plan ("HSP") Form is attached hereto as **Exhibit H** and incorporated herein for all purposes. TAB shall provide the HUB program of TFC with pertinent details of any participation by a HUB in fulfilling the duties and obligations arising hereunder on

the HUB Subcontracting Plan Progress Assessment Report, a copy of the form for which is attached hereto as **Exhibit I** and incorporated herein for all purposes.

11.3. Requirement to Utilize HUB Compliance Reporting System. Pursuant to Texas Administrative Code, Title 34 §§ 20.85(f)(1)(2) and 20.287(b), TFC administers monthly administration HSP-PAR compliance monitoring through its HUB Compliance Reporting System commonly known as B2G. TAB and TAB's subcontractors/subconsultants shall submit required PAR information into the B2G system. Any delay in the timely submission of PAR information into the B2G system will be treated as an invoicing error subject to dispute under Tx. Gov't Code Section 2251.042.

11.4. Relationship of the Parties. TAB is associated with TFC only for the purposes and to the extent specified in this Agreement, and with respect to performance of the contracted services pursuant to this Agreement, TAB is and shall be an independent contractor. Subject only to the terms of this Agreement, TAB shall have the sole right to supervise, manage, operate, control, and direct performance of the details incident to its duties under this Agreement. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for TFC whatsoever with respect to the indebtedness, liabilities, and obligations of TAB or any other party. TAB shall be solely responsible for, and TFC shall have no obligation with respect to: (i) withholding of income taxes, FICA, or any other taxes or fees; (ii) industrial or workers' compensation insurance coverage; (iii) participation in any group insurance plans available to employees of the State of Texas; (iv) participation or contributions by the State to the State Employees Retirement System; (v) accumulation of vacation leave or sick leave; or (vi) unemployment compensation coverage provided by the State.

11.5. No Assignment and Subcontracts. TAB shall neither assign, transfer, nor delegate any rights, obligations, or duties under this Agreement without the prior written consent of TFC. Notwithstanding the foregoing, it is mutually understood and agreed that TAB may engage Subcontractors to perform some or all of the Professional Services. In any approved Subcontracts, TAB shall legally bind such Subcontractor to perform and make such Subcontractor subject to all the duties, requirements, and obligations of TAB specified herein. Nothing herein shall be construed to relieve TAB of the responsibility for ensuring that the goods delivered and/or the services rendered by TAB and/or any of its Subcontractors comply with all the terms and provisions of this Agreement. TAB must provide written notification to TFC of any such Subcontractor performing work under this Agreement, including the name and taxpayer identification number of Subcontractor, the task(s) being performed, and the number of Subcontractor employees expected to work on the task.

11.6. Drug Free Work Place. TAB, TAB's employees and all Subcontractors shall comply with the applicable provisions of the Drug-Free Work Place Act of 1988 (Public Law No. 100-690, Title V, Subtitle D; 41 U.S.C. 701 et seq.) and maintain a drug-free work environment; and the final rule, government-wide requirements for drug-free work place (grants), issued by the Office of Management and Budget and the Department of Defense (32 CFR Part 280, Subpart F) to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference

and TAB, TAB's employees, and all Subcontractors shall comply with the relevant provisions thereof, including any amendments to the final rule that may hereafter be issued.

11.7. No Smoking. All facilities where work is to be performed are nonsmoking buildings. TAB's employees and Subcontractors are prohibited from smoking in all areas except in areas designated for smoking.

11.8. Notices. All notices, demands and requests required in this Agreement (hereinafter referred to as "Notices") must be in writing and shall be deemed to have been properly delivered and received (i) three (3) business days after deposit in a regularly maintained receptacle for the United States Postal Service, certified mail, return receipt requested with adequate postage prepaid; or (ii) one (1) business day after deposit with Federal Express or other comparable overnight delivery system for overnight delivery with all costs prepaid. All Notices hereunder shall be addressed as follows:

If to TFC: Texas Facilities Commission
Attention: Legal Services
1711 San Jacinto Boulevard, Suite 400
Austin, Texas 78701

With a copy to: Texas Facilities Commission
Attention: John S. Raff, Deputy Executive Director
1711 San Jacinto Boulevard, Suite 400
Austin, Texas 78701

If to TAB: Engineered Air Balance Company, Inc.
Attention: Daryl Norris, Branch Manager, San Antonio
12961 Park Central Suite 1390
San Antonio, Texas 78216
Telephone: (210) 736-9494
Mobile: (210) 389-4542
Email: DNorris@eabcoinc.com

Either party hereto may change its address by giving the other party written notice thereof at least five (5) business days in advance of the effective date for such new address.

11.9. Name and Organizational Changes. TAB must provide TFC with written notification of all name changes and organizational changes relating to TAB including, but not limited to, merger, acquisition or sale no later than ten (10) business days of such change. TAB, in its notice, shall describe the circumstances of the name change or organizational change, state its new name, provide the new Tax Identification Number, and describe how the change will impact its ability to perform under the TAB. If the change entails personnel changes for personnel performing the responsibilities of the Agreement for TAB, TAB shall identify the new personnel and provide resumes to TFC, if resumes were originally required by the solicitation. TFC may request other information about the change and its impact on the Agreement and TAB shall supply the requested

information within five (5) working days of receipt of the request. All written notifications of organizational change must include a detailed statement specifying the change and supporting documentation evidencing continued right of TAB or successor entity, as applicable, to maintain its status as a party to this Agreement. TFC may terminate the Agreement due to any change to TAB that materially alters TAB's ability to perform under the Agreement.

11.10. Electronic and Information Resources Accessibility Standards. (i) Effective September 1, 2006, all state agencies and institutions of higher education shall procure products which comply with the State of Texas accessibility requirements for electronic and information resources specified in Title 1 of the Texas Administrative Code, Chapter 213 when such products are available in the commercial marketplace or when such products are developed in response to a procurement solicitation. (ii) If applicable, TAB shall provide the Texas Department of Information Resources ("DIR") with the universal resource locator ("URL") to its Voluntary Product Accessibility Template ("VPAT") for reviewing compliance with the State of Texas Accessibility requirements (based on the federal standards established under Section 508 of the Rehabilitation Act), or indicate that the product/service accessibility information is available from the General Services Administration "Buy Accessible Wizard" (<https://app.buyaccessible.gov/baw/Main.jsp>). Contractors not listed with the "Buy Accessible Wizard" or supplying a URL to their VPAT must provide DIR with a report that addresses the same accessibility criteria in substantively the same format. Additional information regarding the "Buy Accessible Wizard" or obtaining a copy of the VPAT is located at <http://www.section508.gov/>.

11.10.1. Cybersecurity Training Required. If TAB has "access," as that term is defined in 1 Tex. Admin. Code § 202.1, to any state computer system or database, then, pursuant to Tex. Gov't Code § 2054.5192, TAB and its subcontractors, officers, and employees shall complete a cybersecurity training program certified under Tex. Gov't Code §2054.519. The cybersecurity training program must be completed by the TAB and its subcontractors, officers and employees during the term and any renewal period of the Agreement. TAB shall verify completion of the training program to TFC pursuant to, and in accordance with, Tex. Gov't Code § 2054.5192.

11.11. Governing Law and Venue. This Agreement and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Texas, exclusive of conflicts of law provisions. Venue of any suit brought pursuant to this Agreement shall be in a court of competent jurisdiction in Travis County, Texas. TAB hereby irrevocably waives any objection, including any objection to personal jurisdiction or the laying of venue or based on the grounds of forum *non conveniens*, which it may now or hereafter have to the bringing of, or responding to, any action or proceeding in such jurisdiction with respect to this Agreement or any document related hereto.

11.12. Proper Authority. The parties hereto represent and warrant that the Person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement. TAB

acknowledges that this Agreement is effective only for the period of time specified in the Agreement.

11.13. Force Majeure. Any delays in or failure of performance by either party, except in respect of the obligation for payments under this Agreement, shall not constitute default hereunder if and to the extent such delays or failure of performance are caused solely by occurrence(s) beyond the reasonable control of the party affected, and which by the exercise of due diligence such Party is unable to prevent (hereinafter referred to as "Force Majeure") including acts of God or the public enemy, sabotage, war, mobilization, revolution, civil unrest, riots, strikes, lockouts, fires, accidents breakdowns, or floods, earthquakes, hurricanes, or any other natural disaster or governmental actions. In any such event, the party claiming Force Majeure shall notify the other party of the Force Majeure event in writing within forty-eight (48) hours of the commencement of the Force Majeure event, and within forty-eight (48) hours of the termination of the Force Majeure event. In the event said party fails to timely provide either of the above-described notices, such failure shall constitute, without further notice or action, a waiver of the right to claim Force Majeure for such event. If possible, the notice shall set forth the extent and duration thereof. The party claiming Force Majeure shall exercise due diligence to prevent, eliminate or overcome such Force Majeure event where it is possible to do so and resume performance at the earliest possible date. However, if nonperformance continues for more than thirty (30) days, TFC may terminate this Agreement immediately upon written notification to TAB. Changes in the schedule or in the design or scope of the Project as a result of any Force Majeure which affect the cost of the TAB's services under this Agreement require a written amendment to this Agreement.

11.14. Dispute Resolution. Claims, disputes, and other matters in question arising out of or relating to this Agreement shall be subject to mediation as a condition precedent to arbitration or the institutions of legal or equitable proceedings by either party. Failure to follow the dispute resolution process below shall result in any claim filed by TAB in a court of law having jurisdiction over the claim to be summarily dismissed. Subject to Texas Government Code, Section 2260.002, the dispute resolution process provided for in Chapter 2260 of the Texas Government Code shall be used by the parties to attempt to resolve all disputes arising under this Agreement. In accordance with the Texas Civil Practice and Remedies Code, Section 114.005, the parties agree claims encompassed by Texas Government Code, Section 2260.002(3) and Texas Civil Practice and Remedies Code, Section 114.002 shall be governed by the following dispute resolution process:

11.14.1. Claims for Breach of Contract and Counterclaims.

11.14.1.1. TAB may make a claim against TFC for breach of a contract between TFC and TAB. TFC may assert a counterclaim against TAB.

11.14.1.2. TAB must provide written notice to TFC of a claim for breach of contract not later than one hundred eighty (180) days after the date of the event giving rise to the claim.

11.14.1.3. The notice must state with particularity: (i) the nature of the alleged breach; (ii) the amount TAB seeks as damages; and (iii) the legal theory of recovery.

11.14.1.4. TFC must assert, in a writing delivered to TAB, any counterclaim not later than the sixtieth (60th) day after the date of notice of a claim under this Section.

11.14.2. Damages. Damages may include the following.

11.14.2.1. The total amount of money recoverable on a claim for breach of contract under this Section may not, after deducting the amount specified in Section 11.14.2.2, below, exceed an amount equal to the sum of:

11.14.2.1.1. the balance due and owing on the contract price;

11.14.2.1.2. the amount or fair market value of orders or requests for additional work made by a unit of state government to the extent that the orders or requests for additional work were actually performed; and

11.14.2.1.3. any delay or labor-related expense incurred by the TAB as a result of an action of or a failure to act by the unit of state government or a party acting under the supervision or control of the unit of state government.

11.14.2.2. Any amount owed the unit of state government for work not performed under a contract or in substantial compliance with its terms shall be deducted from the amount in Section 11.14.2.1 above.

11.14.2.3. Any award of damages under this Agreement may not include:

11.14.2.3.1. consequential or similar damages, except delays or labor-related expenses described by Section 11.14.2.1.3 above;

11.14.2.3.2. exemplary damages;

11.14.2.3.3. any damages based on an unjust enrichment theory;

11.14.2.3.4. attorney's fees; or

11.14.2.3.5. home office overhead.

11.14.3. Negotiation. TFC's general counsel shall examine the claim and any counterclaim and negotiate with TAB in an effort to resolve them. The negotiation must begin no later than one hundred twenty (120) days after the date the claim is received. TFC's administrative rules located at Title 1, Part 5, Section 111.31 of the Texas Administrative Code apply to this Agreement and govern the negotiation of any dispute arising from this Agreement. In the event negotiation results in the resolution of some disputed issues by agreement or in a settlement, the parties shall reduce the settlement to writing, and each party shall sign the settlement. A partial settlement or resolution of a claim does not waive a party's rights as to the parts of the claim that are not resolved.

11.14.4. Mediation. Before the one hundred twentieth (120th) day after the date the claim is filed with TFC and before the expiration of any extension of time mutually agreed upon,

the parties shall agree to mediate a claim made under this Agreement. TFC's administrative rules located at Title 1, Part 5, Section 111.31 of the Texas Administrative Code apply to this Agreement and govern the mediation of any dispute arising from this Agreement.

11.14.5. Adjudication. TAB may adjudicate any claim in accordance with and to the extent permitted under the Texas Civil Practice and Remedies Code, Chapter 114 or the Texas Government Code, Chapter 2260 only after both parties have completed mediation of the claim in question.

11.14.6. Payment of Claims. In accordance with the Texas Civil Practice and Remedies Code, Section 114.011, TFC may pay a claim resolved under Section 11.13 only from money appropriated to it for payment of contract claims or for payment of the contract that is the subject of the claim. If money previously appropriated for payment of contract claims or payment of the contract is insufficient to pay the claim or settlement, the balance of the claim may be paid only from money appropriated by the legislature for payment of the claim. Chapter 304 of the Texas Finance Code applies to a judgment awarded to a claimant, except that the applicable rate of interest may not exceed the maximum rate allowed by applicable Laws and Regulations. Consistent with the Texas Civil Practice and Remedies Code, Section 114.011, property owned by the State or any unit of state government is not subject to seizure, attachment, garnishment, or any other creditors' remedy to satisfy a judgment on a breach of contract claim.

11.14.7. Representation of TFC. The Office of the Texas Attorney General shall defend TFC in any proceeding or adjudication conducted in conjunction with a claim brought under this Section 11.14.

11.15. Legal Construction and Severability. In the event any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision herein, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein. Furthermore, in lieu of each such illegal, invalid, or unenforceable provision there shall be substituted a provision as similar in terms to such illegal, invalid, or unenforceable provision as may be possible and be legal, valid, and enforceable.

11.16. Multiple Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original, and each such counterpart shall together constitute but one and the same agreement.

11.17. Binding Effect. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their representatives, successors and assigns.

11.18. Limitation on Authority and No Other Obligations. TAB shall have no authority to act for or on behalf of TFC or the State of Texas except as expressly provided for in this Agreement; no other authority, power, or use is granted or implied. TAB may not incur any debts, obligations, expenses, or liabilities of any kind on behalf of TFC or the State of Texas.

11.19. Limitation on Adjudication Awards. In the event TAB brings a civil suit against TFC and prosecutes it to final judgment pursuant to Chapter 114 of the Code, any recovery by TAB shall be specifically limited to the balance due and owed by TFC on the Agreement as it may have been amended, including any amounts owed by written change orders. Pre-judgment and post-judgment interest shall be limited to the rate of three percent (3.0%) per annum. TAB HEREBY WAIVES ALL CLAIMS FOR MONETARY DAMAGES FOR ANY AMOUNT THAT MAY BE CLAIMED: (i) FOR THE INCREASED COST TO PERFORM WORK AS A DIRECT RESULT OF OWNER-CAUSED DELAYS OR ACCELERATION; (ii) BASED UPON AN UNJUST ENRICHMENT THEORY; (iii) FOR CONSEQUENTIAL AND EXEMPLARY DAMAGES; and (iv) FOR DAMAGES FOR ANY UNABSORBED HOME OFFICE OVERHEAD.

11.20. No Waiver of Sovereign Immunity. Except as may be expressly and specifically provided otherwise by Chapter 114, Texas Civil Practice and Remedies Code, nothing in this Agreement shall be construed as a waiver of sovereign immunity; nor constitute or be construed as a waiver of any of the privileges, rights, defenses, remedies, or immunities available to the State of Texas, TFC or the Using Agency. The failure to enforce, or any delay in the enforcement, of any privileges, rights, defenses, remedies, or immunities available to the State of Texas under the Agreement or under applicable law shall not constitute a waiver of such privileges, rights, defenses, remedies, or immunities or be considered as a basis for estoppel.

11.21. No Implied Waiver. The failure of a party to insist at any time upon the strict performance of any covenant or agreement or to exercise any option, right, power, or remedy contained in this Agreement shall not be construed as a waiver or a relinquishment thereof for the future.

11.22. No Third-Party Beneficiaries. This Agreement is made solely and specifically among and for the benefit of the parties named herein and the Using Agency, and their respective successors and assigns, and no other Person shall have any right, interest, or claims hereunder or be entitled to any benefits pursuant to or on account of this Agreement as a third-party beneficiary or otherwise.

11.23. Further Assurances. TAB shall take such actions and execute such other and additional documents as are reasonably necessary or desirable in order to carry out the purposes and intent of this Agreement.

11.24. Prohibition on Certain Bids and Contracts. Under Texas Government Code, Section 2155.006, relating to the prohibition of certain bids and contracts, TAB certifies that the individual or business entity named in this Agreement is not ineligible to receive the specified Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate. TAB represents and warrants that during the five (5) year period preceding the date of this Agreement, TAB has not been: (i) convicted of violating a federal law in connection with a contract awarded by the federal government for relief, recovery, or reconstruction efforts as a result of Hurricane Rita, as defined by Texas Utilities Code, Section 39.459, Hurricane Katrina, or any other disaster occurring after September 24, 2005; or (ii) assessed a penalty in a federal civil or administrative enforcement action in connection with a contract awarded by the federal government for relief, recovery, or reconstruction efforts as a result

of Hurricane Rita, as defined by Texas Utilities Code, Section 39.459, Hurricane Katrina, or any other disaster occurring after September 24, 2005.

11.25. No Presumptions for Ambiguities. Each party hereby represents and warrants that although the initial draft of this Agreement and any exhibits may have been prepared by one party, both parties have been given the opportunity to review this Agreement and those exhibits with counsel of their choice, and have made additions, revisions, and amendments hereto. Therefore, each party hereby covenants and agrees that they are co-drafters of this Agreement and those exhibits such that any ambiguities cannot be construed against any party.

11.26. Time is of the Essence. Time is of the essence with respect to this Agreement; provided however, in the event that any of the deadlines set forth herein end on a Saturday, Sunday, or federal legal holiday, such deadline shall automatically be extended to the next day which is not a Saturday, Sunday, or federal legal holiday.

11.27. Work Made for Hire. All Work shall constitute the exclusive property of TFC. All right, title and interest in and to said Work shall automatically and without further notice or action vest in TFC upon creation and shall be deemed to be a work for hire and made in the course of the services rendered pursuant to this Agreement. To the extent that title to any such Work may not, by operation of law, vest in TFC, or such Work may not be considered a work made for hire, all rights, title and interest therein are hereby irrevocably and unconditionally assigned to TFC. TFC shall also have the right to obtain and to hold in its name any and all patents, copyrights, registrations or such other protection as may be appropriate to the subject matter, and any extensions and renewals thereof. TAB must give TFC and/or the State of Texas, as well as any person designated by TFC and/or the State of Texas, all assistance reasonably necessary to effectuate the intent of this section and to perfect the rights and interests defined herein without any charge or expense to TFC beyond those amounts payable to TAB for the services rendered under this Agreement.

11.28. False Statements; Breach of Representations. By signature to this TAB, TAB makes all the representations, warranties, guarantees, certifications and affirmations included in this Agreement. If TAB signs this Agreement with a false statement or it is subsequently determined that TAB has violated any of the representations, warranties, guarantees, certifications or affirmations included in this Agreement, TAB shall be in default under this Agreement, and TFC may terminate or void this Agreement for cause and pursue other remedies available to TFC under this Agreement and applicable law.

11.29. Abandonment and Default. If TAB defaults on this Agreement, TFC reserves the right to cancel the Agreement without notice and either re-solicit or re-award the Agreement to the next best responsive and responsible respondent. The defaulting TAB will not be considered in the re-solicitation and may not be considered in future solicitations for the same type of work.

11.30. Antitrust and Assignment of Claims. TAB represents and warrants that neither TAB nor any firm, corporation, partnership, or institution represented by TAB, or anyone acting for such firm, corporation or institution has (i) violated the antitrust laws of the State of Texas under Tex. Bus. & Com. Code, Chapter 15, or the federal antitrust laws; or (ii) communicated directly or

indirectly the proposal to any competitor or any other person engaged in such line of business during the procurement process for this Agreement. TAB assigns to the State of Texas all of TAB's rights, title, and interest in and to all claims and causes of action TAB may have under the antitrust laws of Texas or the United States for overcharges associated with the Agreement.

11.31. Schedule of Exhibits. The following shall be the exhibits to this Agreement.

- 11.31.1. Exhibit A. 2015 Uniform General Conditions.
- 11.31.2. Exhibit B. 2018 Supplementary General Conditions.
- 11.31.3. Exhibit C. Per Building CD's.
- 11.31.4. Exhibit D. Professional Services Schedule.
- 11.31.5. Exhibit E. List of Project Manager and Subcontractors.
- 11.31.6. Exhibit F. TAB's Proposal dated September 18, 2020.
- 11.31.7. Exhibit G. Approved HUB Subcontracting Plan.
- 11.31.8. Exhibit H. HUB Subcontracting Plan Form.
- 11.31.9. Exhibit I. HUB Subcontracting Plan Progress Assessment Report Form.

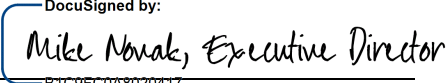
11.32. Survival of Terms. Termination of the Agreement for any reason shall not release TAB from any liability of obligation set forth in the Agreement that is expressly stated to survive any such termination or by its nature would be intended to be applicable following any such termination, including the provisions regarding confidentiality, indemnification, transition, records, audit, property rights, dispute resolution and invoice and verification.

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Attachment D-
TFC Contract No. 21-020-000
Engineered Air Balance Company, Inc.
Project No. 17-017-8020 (16-018E-8001)
RFQ No. 303-9-02101

11.33. Entire Agreement and Modification. This Agreement and its integrated attachment(s) constitute the entire agreement of the parties and such are intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other agreements that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Agreement specifically displays a mutual intent to amend a particular part of this Agreement, general conflicts in language between any such attachment and this Agreement shall be construed consistently with the terms of this Agreement. Unless otherwise expressly authorized by the terms of this Agreement, no modification, renewal, extension, or amendment to this Agreement shall be binding upon the parties unless the same is in writing and signed by the respective parties hereto.

TEXAS FACILITIES COMMISSION


By: 
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Mike Novak

Executive Director

Date of Execution: 01/05/2021 | 7:33 AM CST


ENGINEERED AIR BALANCE COMPANY, INC.


By: 
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Daryl Norris

Branch Manager, San Antonio

Date of Execution: 01/05/2021 | 7:31 AM CST

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DGC 

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Exhibit A

2015 Uniform General Conditions

The *2015 Uniform General Conditions* (hereinafter referred to as “UGC”) are located at this TFC Construction Contracts website link, at 5C in PDF:

<http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2015%20UGC%2003.07.2017.Final.pdf>

Exhibit B

2018 Supplementary General Conditions

The *2018 Supplementary General Conditions to the 2015 Uniform General Conditions* are located at this TFC website link in PDF:

[http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2018%20Supplementary%20Modifications%20to%20Article%205%203-23-2018%20\(003\).pdf](http://www.tfc.state.tx.us/divisions/facilities/prog/construct/formsindex/2018%20Supplementary%20Modifications%20to%20Article%205%203-23-2018%20(003).pdf)

Exhibit C

Per Building CD's

5C16 – TFC 1601 CONGRESS BUILDING
 Austin, Texas
 TFC Project Number: 17-017-8020
 Kirksey Project Number: 2017148



ISSUED FOR CONSTRUCTION
 01 NOV 2019
 Kirksey

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SECTION 230593 - START-UP, TESTING, ADJUSTING AND BALANCING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The requirements of the General Conditions, Supplementary Conditions, Division 1, Division 20, and Drawings apply to all Work herein.
- B. Requirements of the following Division 20-28 Sections apply to this section:
 - 1. Design Criteria - Section 20 05 02
 - 2. Basic Division 20-28 Requirements - Section 20 05 03
 - 3. Schedule of Submittal Data - Section 20 05 04
 - 4. General Division 20-28 Materials and Methods - Section 20 05 05
 - 5. Scope of Work - Section 23 05 01

1.2 SCOPE

- A. Testing, adjusting and balancing of all air systems.
- B. Testing, adjusting and balancing of all hydronic systems.
- C. Hydrostatic pressure testing of all pressure piping systems.
- D. Sound measurement of equipment operating conditions.

1.3 RELATED SECTIONS

- A. Division 01.
- B. All Division 23 Sections.

1.4 QUALITY CONTROL

- A. Qualified TAB Firm will be engaged directly by Texas Facilities Commission to complete work outlined below and as described elsewhere in Project Manual.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Before commencing work, verify that systems are complete and operable to the following extent:
 - 1. Equipment is operable and in a safe and normal condition.
 - 2. Temperature control systems are installed complete and operable.
 - 3. Proper thermal overload protection is in place for electrical equipment.
 - 4. All air filters are clean and in place. If required, install temporary media in addition to final filters.
 - 5. Correct fan rotation.
 - 6. Fire, smoke, and volume dampers are in place and open.
 - 7. Coil fins have been cleaned and combed.
 - 8. Access doors are closed and duct end caps are in place.
 - 9. Air outlets are installed and connected.
 - 10. Duct system leakage is below specified level.
 - 11. Hydronic systems have been flushed, filled and vented.
 - 12. Correct pump rotation.
 - 13. Proper strainer baskets are clean and in place.
 - 14. Service and balance valves are open.
- B. Report any defects or deficiencies noted during performance of services to Architect/Engineer.
- C. Promptly report abnormal conditions in mechanical systems or conditions that prevent system balance.
- D. If, for design reasons, system cannot be properly balanced, report as soon as observed.

5C16 – TFC 1601 CONGRESS BUILDING
Austin, Texas
TFC Project Number: 17-017-8020
Kirksey Project Number: 2017148



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- E. Beginning of work means acceptance of existing conditions.

3.2 PREPARATION

- A. Provide all material, equipment and personnel, including factory personnel where specified or required, to fully check out and start up all equipment and systems as specified in accordance with manufacturer's requirements.
- B. No water piping systems shall be "pumped" until all piping has been hydrostatically tested, flushed, cleaned and water treated as applicable.
- C. Lubrication and fluid levels shall be checked prior to equipment start-up. Alignment on all motor driven equipment shall be checked and adjusted prior to start-up.

3.3 TESTING PROCEDURES

- A. Tests shall be made during the course of construction as specified and as required by authorities having jurisdiction.
- B. Test submittals shall include a preliminary submittal of all proposed test procedures and recording forms for Engineer's review prior to any testing and four (4) copies of all certified test results and completed reporting forms for approval.
- C. Gas Fired Boiler Safety Testing: Fire each gas-fired boiler make sure all safety devices are functioning properly. Run up temperature and pressure to relief valve settings and make them relieve pressure and shut off gas valve. Do not raise arm on relief valve for checking. Make sure all other safety devices for gas fired appliances and air conditioning equipment are functioning properly and fail safe.
- D. Vibration Testing: Where a piece of equipment exhibits, in the Engineers opinion, excessive noise or vibration, the service of a certified acoustic Consulting Engineer shall be provided to perform noise and vibration testing on the equipment or system involved. The Consulting Engineer shall provide a written report concerning the noise and vibration of the equipment or system involved and the Contractor involved shall make changes or modifications as recommended by the Consulting Engineer. The above services and retroactive corrections shall be provided at no cost to the Owner or Architect/Engineer.
- E. Hydrostatic Testing: All pressurized piping (not listed herein) shall be leak tested prior to enclosure or cover-up. Piping shall be leak tested for 24 hours under a hydrostatic pressure of 150% of the system design working pressure. The Engineer shall be notified prior to all hydrostatic tests and may elect to witness any of the tests. Water shall not be drawn off of the piping, and the piping shall not be covered up until it has been observed by the Engineer. Care shall be taken to protect any equipment that may be damaged by hydrostatic testing.
- F. Refrigerant Leak Testing: Leak test and check refrigerant systems at final acceptance and at the end of the warranty period. Repair any leaks found and properly charge affected systems with refrigerant. Insure refrigerant systems are properly charged and free from leaks at final acceptance and at the end of warranty (1 year from final acceptance).
- G. Water Testing: Provide water analysis and testing as specified in Section 23 25 10.
- H. Fire, Smoke and Fire/Smoke Damper Testing: Provide fire, smoke and fire/smoke damper testing and certification as specified in Section 23 33 10.
- I. Fire Alarm System Interface: Provide testing, in conjunction with the Fire Alarm System functional testing specified in Section 28 31 00, to verify that all Fire alarm related HVAC control functions and shutdowns operated as specified in Section 25 09 16, Division 28, and as shown on the drawings.
- J. Duct Leakage: Medium pressure low velocity duct: Duct leakage shall be tested and shall be less than 5% of the pressure up to 4" W.G. maximum duct pressure. Ductwork failing this test shall be reworked, resealed and retested by this Contractor until it passes this test.
- K. Air Balance: Upon completion of the installation of air system components, the outside, supply, exhaust and return air volume for each air handling unit, supply fan and exhaust fan; and the supply, exhaust or return air volume for each air distribution device shall be adjusted to within 5% of "design" air flow. The amount of air indicated on the drawings through ceiling outlets etc. includes a 5% allowance for duct leakage. "Design"

5C16 – TFC 1601 CONGRESS BUILDING
Austin, Texas
TFC Project Number: 17-017-8020
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air-flow is thus 95% of the value indicated on the drawings. Air handling unit and fan volumes shall be adjusted by changing fan speed and adjusting volume dampers associated with the unit.

- L. Air Distribution Device Volume shall be adjusted using the spin-in tap damper for flexible duct connected devices and/or the device OBD for duct connected devices. Air distribution devices shall be balanced with air patterns as specified. Duct volume dampers shall be adjusted to provide air volume to branch ducts where such dampers are shown.
- M. Water Balance:
 - 1. After initial start-up of the chilled water, condenser, and heating hot water systems, each system shall be balanced to provide proper water volume from all pumps and through all loops, heat exchangers, coils, bypass links, and cooling tower cells to within 5% of the volume shown on the drawings.
 - 2. The balanced position on all valves shall be permanently marked in the valve body insulation.
- N. Automatic Temperature Control Adjustment: Adjust and calibrate all thermostats, dampers, operators, controllers, and other devices, as required to put the Temperature Control system in proper working order as designed and specified.
- O. Completion Reports: Before the final inspection, but after all testing, balancing and adjusting, the Contractor shall furnish all labor, materials and devices necessary to prepare a completion report with the following information.
 - 1. Motor data on all motors installed on the project. Motors shall be listed by the device on which they are installed, and information provided shall include:
 - a. Horsepower
 - b. Speed
 - c. Type
 - d. Location
 - e. Rated full load amperage
 - f. Rated voltage
 - g. Actual measured amperage for each leg
 - h. Actual measured voltage for each leg
 - 2. Belt and drive data for all belt driven equipment installed on the project. Data shall be listed by the device on which the belts and drive are installed and information provided shall include: number of belts, size of belts, size and type of drive installed, motor RPM and driven device RPM.

END OF SECTION

LEGEND OF MECHANICAL SYMBOLS			GENERAL NOTES			MECHANICAL DESIGN CRITERIA		
SYMBOL	DESCRIPTION	ABBREVIATIONS	1. FURNISH AND INSTALL ALL ITEMS, INCLUDING EVERY ARTICLE, DEVICE, OR ACCESSORY REASONABLY NECESSARY TO FACILITATE EACH SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT SPECIFIED. ELEMENTS OF THE WORK SHALL INCLUDE, BUT ARE NOT LIMITED TO: MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, HOISTING/POORING, STORAGE, UTILITIES, AND ALL REQUIRED PERMITS AND LICENSES.			MECHANICAL DESIGN CRITERIA		
	NEW DUCTWORK INDICATED SOLID	A/CV COMPRESSED AIR ABV ABOVE AD AUTOMATIC DAMPER APF ABOVE FINISHED FLOOR AHJ AIR HANDLING UNIT APD AIR PRESSURE DROP ALB ALUMINUM BFF BELOW FINISHED FLOOR BWP BREAKER WORK POWER BLD BUILDING B.O.D. BOTTOM OF DUCT B.O.P. BOTTOM OF PIPE BTU BRITISH THERMAL UNIT BTUH BRITISH THERMAL UNIT PER HOUR CD CONDENSATE DRAIN CUBIC FEET PER HOUR CFM CUBIC FEET PER MINUTE CHWS CHILLED WATER SUPPLY CHWR CHILLED WATER RETURN CIRCULATING CEN CENTERING CLO CLOSET CONN CONNECTION CRAC COMPUTER ROOM AIR CONDITIONER CRASHU COMPUTER ROOM AIR HANDLING UNIT C.W. COLD WATER CWS CONDENSER WATER SUPPLY CWR CONDENSER WATER RETURN DB DRY BULB DA DAMPER DISCT DISCONNECT DN DOWN DNV DRAINING DK DROP EA EXHAUST EAT ENTERING AIR TEMPERATURE EWH ELECTRIC WHEAT HEATER EL ELEVATION ELEC ELECTRICAL E.S.P. EXTERNAL STATIC PRESSURE ELWH ELECTRIC WHEAT HEATER EVP EVAPORATOR EWT ENTERING WATER TEMPERATURE EWH EXHAUST EXIST EXISTING FCD FLOOR CLEAN OUT FCL FANCOIL UNIT FD FIRE DAMPER FF FINISHED FLOOR FLA FULL LOAD AIRS FLX FLEXIBLE FLR FLOOR F.O. FLAT DUAL F.O.B. FLAT ON BOTTOM TRANSITION F.O.T. FLAT ON TOP TRANSITION FPM FEET PER MINUTE FFTU FAN POWERED TERMINAL UNIT FBI FIRE BRACE DAMPER FT FEET G.G. GENERAL CONTRACTOR GALLONS PER MINUTE GPM GALLONS PER HOUR HR HOUR HP HORSE POWER H.W. HOT WATER HD HUB DRAIN HORIZ HORIZONTAL HD. HEAD IN FEET HT HEIGHT LE LEVEL ELEVATION N. NORTH INSUL INSULATION IN. INCHES LAT LEAVING AIR TEMPERATURE LWT LEAVING WATER TEMPERATURE MAX MAXIMUM MTH THOUSAND BTU/H MECH MECHANICAL MTH MANHOLE MRL MROKMAN MANU MANUAL VOLUME DAMPER N.C. NORMALLY CLOSED N.C. NOT IN CONTACT N.O. NORMALLY OPEN NO. NUMBER NFW NON PORTABLE WATER NFS NOT TO SCALE OA OUTSIDE AIR OAHU OUTSIDE AIR HANDLING UNIT OBS OPPOSED BLADE DAMPER OD OVERFLOW DRAIN ODT OUTSIDE DRAIN TEMPERATURE P.P. PRESSURE DROP PH PHASE PMT PARTS PER MINUTE P.R.V. PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH QTY. QUANTITY R. RISE R.A. RETURN AIR RE REFER OR REFERENCE REQD. REQUIRED RD (PRIMARY) ROOF DRAIN REV. REVISED RLA RATED LOAD AMPS RPM REVOLUTIONS PER MINUTE RSHR ROOF SHUT S.A. SUPPLY AIR SANT. SANITARY SHT. SCHEDULE HEAT S.P. STATIC PRESSURE SA STANDARD STV STANDARD VARIABLE FREQUENCY DRIVE SURF. SURFACE SUSP. SUSPENDED OR SUSPENDED SW SWITCH SYS. SYSTEM TEMP. TEMPERATURE T.P. TOTAL PRESSURE T.S.P. TOTAL STATIC PRESSURE TSTAT. THERMOSTAT TYP. TYPICAL	2. DRAWINGS ARE GRAPHIC IN NATURE AND DO NOT NECESSARILY REFLECT ALL WORK REQUIRED TO COMPLETE PROJECT. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT AS REQUIRED TO COMPLY WITH THE DESIGN INTENT AND AT NO ADDITIONAL COST TO THE OWNER/TENANT OR TO THE CONTRACTOR. CONTRACTOR SHALL REQUEST ADDITIONAL INFORMATION IN CASES OF DOUBT.			MECHANICAL DESIGN CRITERIA		
	RECTANGULAR ELBOW WITHOUT TURNING VANES	BTU1	3. WORK SHALL COMPLY WITH THE MOST RECENT VERSION OF ALL APPLICABLE LAWS, RULES, REGULATIONS AND ORDINANCES OF ALL FEDERAL, STATE AND LOCAL AUTHORITIES. IN THE EVENT OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE LOCAL ENFORCING AUTHORITY, THE LATTER SHALL PREVAIL. ANY MODIFICATION REGARDING THEREOF SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR ARCHITECT/ENGINEER. THE CONTRACTOR SHALL REPORT ANY SUCH MODIFICATIONS TO THE ARCHITECT/ENGINEER AND SECURE HIS APPROVAL BEFORE PROCEEDING. SHOULD THE REQUIREMENTS OF THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THE CODES, THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE PROVIDED THEY ARE NOT IN CONFLICT WITH THOSE CODES.			TYPICAL BUILDING WALL AND ROOF INFORMATION:		
	RECTANGULAR ELBOW WITH TURNING VANES	BTU1	4. BEFORE SUBMITTING A BID, IT WILL BE NECESSARY FOR EACH CONTRACTOR WHOSE WORK IS INVOLVED TO VISIT THE SITE AND ASCERTAIN FOR HIMSELF THE CONDITIONS TO BE MET IN INSTALLING THE WORK AND MAKE PROVISIONS FOR THE CONDITIONS IN HIS BID. FAILURE ON THE PART OF THE CONTRACTOR TO COMPLY WITH THIS REQUIREMENT SHALL NOT BE CONSIDERED JUSTIFICATION FOR THE OMISSION OR FAULTY INSTALLATION OF ANY WORK COVERED BY THE CONTRACT DOCUMENTS.			TYPICAL BUILDING WALL		
	RADIUS ELBOW WITHOUT TURNING VANES (R=1/4 IN.)	BTU1	5. CONSIDERATION SHALL NOT BE GRANTED FOR MISUNDERSTANDING OF THE SCOPE OR AMOUNT OF WORK TO BE PERFORMED. TENDER OF A PROPOSAL CONSTITUTES FULL CONTRACTOR AGREEMENT OF THE ITEMS AND CONDITIONS SPECIFIED AND INDICATED, SCHEDULED, OR IMPLIED ON THE CONTRACT DOCUMENTS, AND/OR REQUIRED BY THE NATURE OF THIS WORK.			U-VALUE:		
	ROUND SPIN-ON WITHOUT DAMPER	BTU1	6. ALL WORK SHALL BE ARRANGED IN A NEAT, WELL ORGANIZED MANNER. ALL SERVICES SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE PRIMARY LINES OF THE BUILDING. LOCATE ALL OPERATING AND CONTROL EQUIPMENT PROPERLY TO PROVIDE EASY ACCESS AND ARRANGE ENTIRE WORK WITH APPROPRIATE ACCESS FOR OPERATION AND MAINTENANCE, AND FOR PROPER CODE AND/OR MANUFACTURER'S CLEARANCES.			TYPICAL BUILDING ROOF		
	ROUND SPIN-ON WITH DAMPER	BTU1	7. ALL EQUIPMENT AND MATERIAL TO BE FURNISHED AND INSTALLED ON THIS PROJECT SHALL BE U.S. OR ETL LISTED, IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION, AND SUITABLE FOR ITS INTENDED USE ON THIS PROJECT.			U-VALUE:		
	ROUND SPIN-ON WITH REMOTE DAMPER OPERATOR	BTU1	8. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL NEW EQUIPMENT, CONTROLS, AND FIXTURES TO BE PROVIDED. SUBMIT MINIMUM FOUR (4) COPIES FOR APPROVAL.			U-VALUE:		
	STANDARD 3/4 INCH PRESSURE TAP	BTU1	9. THE FOLLOWING SUBMITTAL DATA SHALL BE FURNISHED AND SHALL INCLUDE BUT NOT BE LIMITED TO: A. EQUIPMENT AND MATERIALS SHOP DRAWINGS B. COORDINATION DRAWINGS C. RECORD DRAWINGS D. OPERATING AND MAINTENANCE MANUALS E. FIRE STOP MATERIALS AND DETAILS			U-VALUE:		
	ROUND SPIN-ON DAMPER WITH FLEXIBLE RUN-OUT	BTU1	10. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL COORDINATE THE INSTALLATION OF DUCTWORK, PIPING, CONDUIT, CABLE, ETC., WITH LIGHTING FIXTURES, SPECIAL CEILING CONSTRUCTION, AIR DISTRIBUTION EQUIPMENT, AND THE STRUCTURE. PROVIDE ADDITIONAL RISES AND DIPS AS REQUIRED. IF, AFTER INSTALLING NEW DUCTWORK, PIPING, CONDUIT, CABLE, ETC., IS FOUND TO BE IN CONFLICT WITH THE ARCHITECTURE, STRUCTURE OR OTHER TRADE WORK, WHICH IS EITHER EXISTING OR SHOWN ON THE CONTRACT DOCUMENTS, THE DUCTWORK, PIPING, CONDUIT, CABLE, ETC., SHALL BE RELOCATED WITHOUT ADDITIONAL COST TO THE OWNER/TENANT. COORDINATE ALL WORK COMPLETELY WITH ALL OTHER TRADES PRIOR TO INSTALLATION.			U-VALUE:		
	FLEXIBLE CONNECTION	BTU1	11. MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD CONDITION. THE COMMERCIAL STANDARD ITEM OF EQUIPMENT AND THE SPECIFIC NAMES INDICATED ARE INTENDED TO IDENTIFY STANDARDS OF QUALITY AND PERFORMANCE NECESSARY FOR THE PROPER FUNCTIONING OF THE WORK. MATERIALS AND EQUIPMENT, WHICH ARE FOUND TO HAVE FACTORY DEFECTS SHALL BE REPLACED OR REPAIRED IN A MANNER ACCEPTABLE TO THE OWNER/TENANT AND ENGINEER AT NO ADDITIONAL COST TO THE OWNER/TENANT.			U-VALUE:		
	POSITIVE PRESSURE DUCT UP	BTU1	12. DAMAGE CAUSED DURING CONSTRUCTION TO EXISTING MATERIALS/EQUIPMENT WILL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO OWNER.			U-VALUE:		
	POSITIVE PRESSURE DUCT ON	BTU1	13. IN THE EVENT OF A CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE GREATER AMOUNT OF TOTAL COST SHALL BE PRECED. BRING THE CONFLICT TO THE ATTENTION OF THE ENGINEER AND REQUEST DIRECTION.			U-VALUE:		
	NEGATIVE PRESSURE DUCT UP	BTU1	14. THIS CONTRACTOR SHALL SECURE ALL PERMITS, LICENSES AND INSPECTIONS REQUIRED FOR HIS WORK, AND SHALL PAY ALL FEES IN CONNECTION WITH SUCH PERMITS, LICENSES AND INSPECTIONS.			U-VALUE:		
	NEGATIVE PRESSURE DUCT ON	BTU1	15. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, A COMPLETE SET OF "AS BUILT" DRAWINGS PORTRAYING ACTUAL SITE CONDITIONS OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION WORK. SUBMISSION SHALL COMPLY WITH THE DELIVERABLES FROM THE BIM DEDICATION PLAN.			U-VALUE:		
	MANUAL VOLUME DAMPER	BTU1	16. PROVIDE CONDENSATE LINES TO ALL HVAC EQUIPMENT WITH COOLING COILS, AND ALL VFR MULTI-ZONE BOXES (WHERE REQUIRED BY MANUFACTURER).			U-VALUE:		
	AUTOMATIC / MOTORIZED DAMPER	BTU1				U-VALUE:		
	BACK DRAFT DAMPER	BTU1				U-VALUE:		
	COMBINATION FIRE-SMOKE DAMPER (VERTICAL POSITION)	BTU1				U-VALUE:		
	COMBINATION FIRE-SMOKE DAMPER (HORIZONTAL POSITION)	BTU1				U-VALUE:		
	FIRE DAMPER (VERTICAL POSITION)	BTU1				U-VALUE:		
	FIRE DAMPER (HORIZONTAL POSITION)	BTU1				U-VALUE:		
	SQUARE CEILING SUPPLY DIFFUSER	BTU1				U-VALUE:		
	SQUARE CEILING EXHAUST DIFFUSER	BTU1				U-VALUE:		
	SQUARE CEILING RETURN DIFFUSER	BTU1				U-VALUE:		
	SUPPLY SIDEWALL REGISTER	BTU1				U-VALUE:		
	RETURN / EXHAUST SIDEWALL REGISTER	BTU1				U-VALUE:		
	LINEAR SLOT DIFFUSER WITH RETURN AIR PLenum	BTU1				U-VALUE:		
	LINEAR SLOT DIFFUSER WITH SUPPLY AIR PLenum	BTU1				U-VALUE:		
	AIR DEVICE TAG (REFER TO SCHEDULE FOR CONNECTION DETS)	BTU1				U-VALUE:		
	SUPPLY ELECTRIC DUCT HEATER	BTU1				U-VALUE:		
	SMOKE DETECTOR FOR REFERENCE (PROVIDED BY ELECTRICAL CONTRACTOR)	BTU1				U-VALUE:		
	NEW THERMOSTAT	BTU1				U-VALUE:		
	RELOCATED, DEMOLISH, & EXISTING THERMOSTAT	BTU1				U-VALUE:		
	TEMPERATURE SENSOR	BTU1				U-VALUE:		
	KITCHEN EXHAUST RISER	BTU1				U-VALUE:		
	HEMIDITY SENSOR	BTU1				U-VALUE:		
	PRESSURE SENSOR	BTU1				U-VALUE:		
	CARBON MONOXIDE SENSOR	BTU1				U-VALUE:		
	CHILLED WATER RISER	BTU1				U-VALUE:		
	CONDENSER WATER RISER	BTU1				U-VALUE:		
	HEATING HOT WATER RISER	BTU1				U-VALUE:		
	STAIR PRESSURIZATION RISER	BTU1				U-VALUE:		
	TOILET EXHAUST RISER	BTU1				U-VALUE:		
	KITCHEN EXHAUST RISER	BTU1				U-VALUE:		
	SMOKE EXHAUST RISER	BTU1				U-VALUE:		
	SUPPLY AIR RISER	BTU1				U-VALUE:		
	RETURN AIR RISER	BTU1				U-VALUE:		
	OUTSIDE AIR RISER	BTU1				U-VALUE:		
	EXHAUST RISER	BTU1				U-VALUE:		
	CONDENSATE RETURN RISER	BTU1				U-VALUE:		
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MECHANICAL KEYED NOTES
1. HEX ROOM SERVING LBU BUILDING. ALL EQUIPMENT WITHIN ROOM PROVIDED UNDER SEPARATE SCOPE OF WORK. RE: "SCUP" PLANS & SPECIFICATIONS FOR POINT OF DEMARC WITH PACKAGE 5/1601 CONGRESS SCOPE.

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|--------------------------------------------------------------|-----------------------------------------------------------------|
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Coleman & Associates |
| Structural Engineering
Enright Haynes White | MEP Engineering Support
Vitek Consulting Engineers
Kremer |
| Low Voltage/Security
Deaton | Parking Consulting
HSA Parking |
| Vertical Transportation
Pentameter & Associates | Code Consulting
Jensen Hughes |
| Envelope Consulting
Wm. J. Jolly, Editor Associates, Inc. | Acoustical Consulting
SLR Consulting |
| Envelope Consulting
Turner/DESS Group | Building Commissioning
HNS |



KEYPLAN



REVISIONS

1	Issued for Construction	01 NOV 2019
2	Issued for SCUP CD	27 SEP 2019
3	Issued for SCUP CD	17 JUL 2019
4	Issued for SCUP CD	05 MAY 2019
5	CD PROPOSED ELEC	15 APR 2019
6	CD PROPOSED ELEC	04 FEB 2019
7	Early CD Progress for	25 DEC 2018
8	ISSUE CD	25 DEC 2018

Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION 01 NOV 2019
TFC PROJECT NUMBER: 174030403
KIRKSEY PROJECT NUMBER: 203748

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

11/01/19

SHEET NAME

**MECHANICAL PLAN -
LEVEL B5 SECTOR 1**

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3B51

1/8" = 1'-0"

MECHANICAL PLAN - LEVEL B5 SECTOR 1 | 1



MECHANICAL PLAN - LEVEL B5 SECTOR 2 | 1



1	Issued for Construction	01 NOV 2018
2	Issued for 100% CD	27 SEP 2019
3	Issued for 95% CD	12 JUL 2019
4	Issued for 65% CD	03 MAY 2018
5	CD PROGRESS SGT	14 APR 2019
6	CD PROGRESS SGT	04 FEB 2019
7	Early CD Progress SGT	21 DEC 2018
8	100% DD	28 OCT 2018

Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION:	01 NOV 2019
TFC PROJECT NUMBER:	17-017-0020
KIRKSEY PROJECT NUMBER:	2017148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

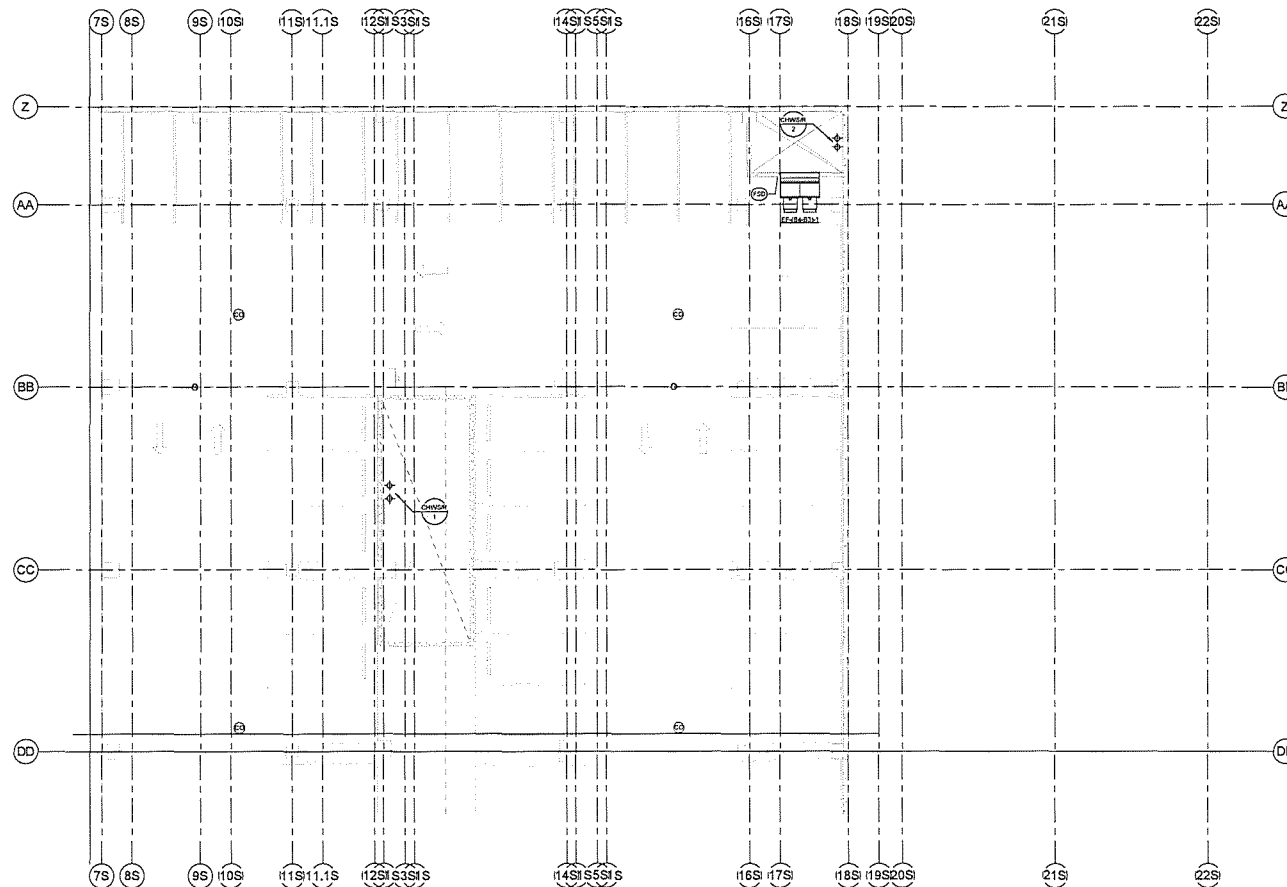
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11/01/19

**MECHANICAL PLAN -
LEVEL B5 SECTOR 2**

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3B52

a total Q = Per Business COn



MECHANICAL PLAN - LEVEL B4-B3 SECTOR 1 | 1



ARCHITECT OF RECORD

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Enlight Haynes Whaley

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Envelope Commissioning
Terracore/SES GroupLandscape Architecture
Coleman & AssociatesMEP Engineering Support
Wyle Consulting Engineers

Encephalopathy

Code Consolidating

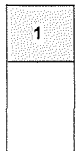
Jason Hughes
A member of the Board of Directors

ESPI Consulting

Building Commissioning



KEYPLAN



REVISIONS

1	Issued for Construction	01 NOV 2018
2	Issued for 95% CD	27 SEP 2018
3	Issued for 95% CD	12 JUL 2018
4	Issued for 95% CD	22 MAY 2018
5	CD PROGRESS GAT	10 APR 2018
6	CD PROGRESS GAT	04 FEB 2018
7	Early CD Progress GAT	21 DEC 2018
8	100% CD	28 OCT 2018

Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION:	01 NOV 2019
TFC PROJECT NUMBER:	17-017-0020
KIRKSEY PROJECT NUMBER:	2017148

CapCom Package 5 1601 Congress

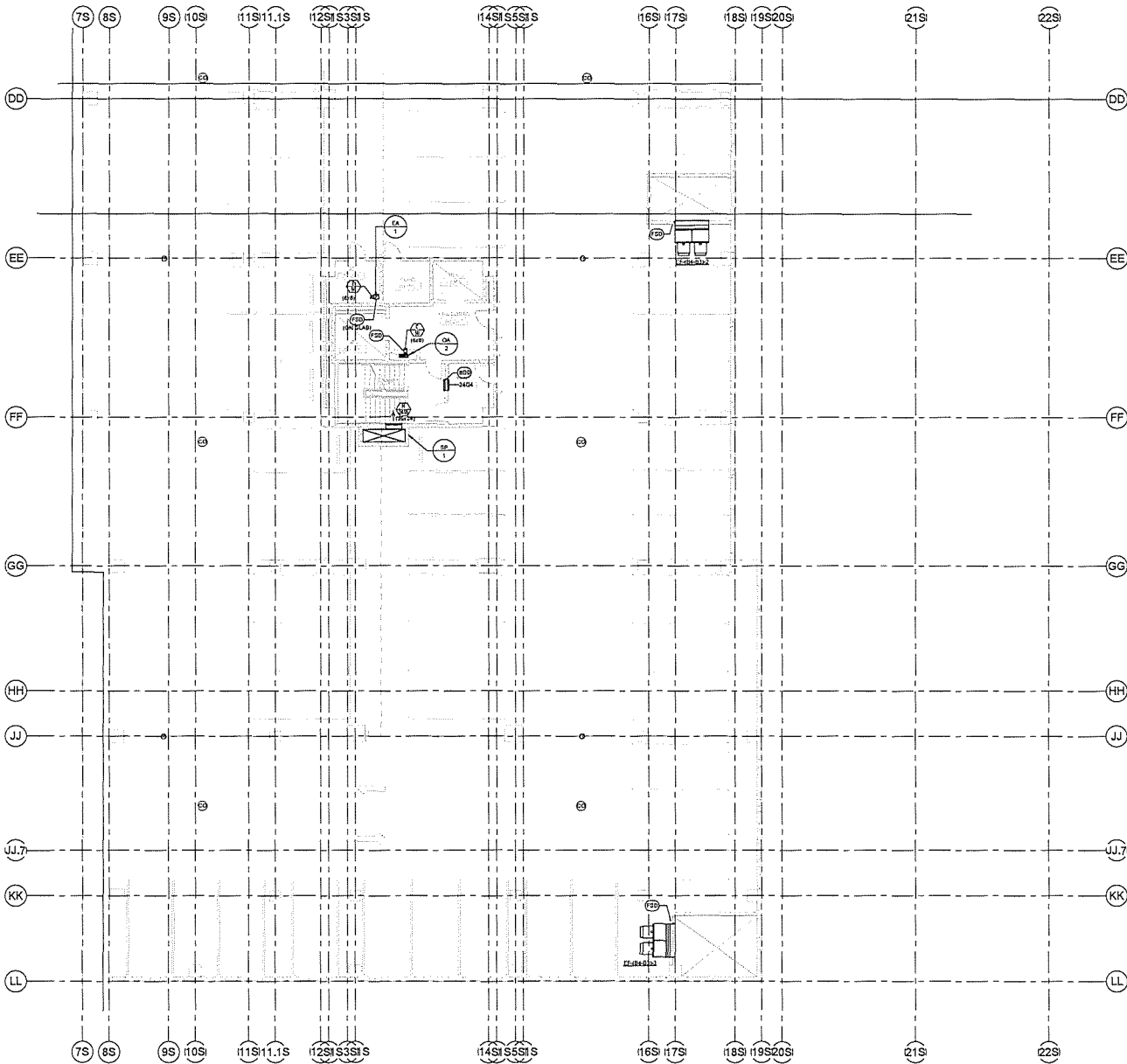
1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
11/01/19

SHEET NAME
**MECHANICAL PLAN -
LEVEL B4-B3 SECTOR**
1

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3B41



1/8" = 1'-0"

MECHANICAL PLAN - LEVEL B4-B3 SECTOR 2 | 1

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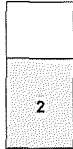
Page 1: Southland Paper, Inc.
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Structural Engineering Douglas Haynes Whiteley	MEP Engineering Support Walter Consulting Engineers Construction
Low Voltage/Electrical Dietrich	Parking Consulting L&H Parking
Vertical Transportation Proctor/Johnson & Associates	Costs Consulting Johnson/Proctor
Program Consulting Wills, Leroy, Golder Associates, Inc.	Acoustical Consulting S&B Consulting
Envelope Consulting Tanner/RES Group	Building Commissioning L&H



KEYPLAN



REVISIONS

Issued for Construction	01 NOV 2018
Issued for 100% CD	27 SEP 2018
Issued for 90% CD	12 JUL 2018
Issued for 80% CD	03 MAY 2018
CD PROGRESS SET	13 APR 2018
CD PROGRESS SET	04 FEB 2018
Letting CD Progress Set	21 DEC 2018
100% CD	14 DEC 2018

Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION: 01 NOV 2018
TFC PROJECT NUMBER: 17401-0020
REFLECT PROJECT NUMBER: 2017146

CapCom Package 5 1601 Congress

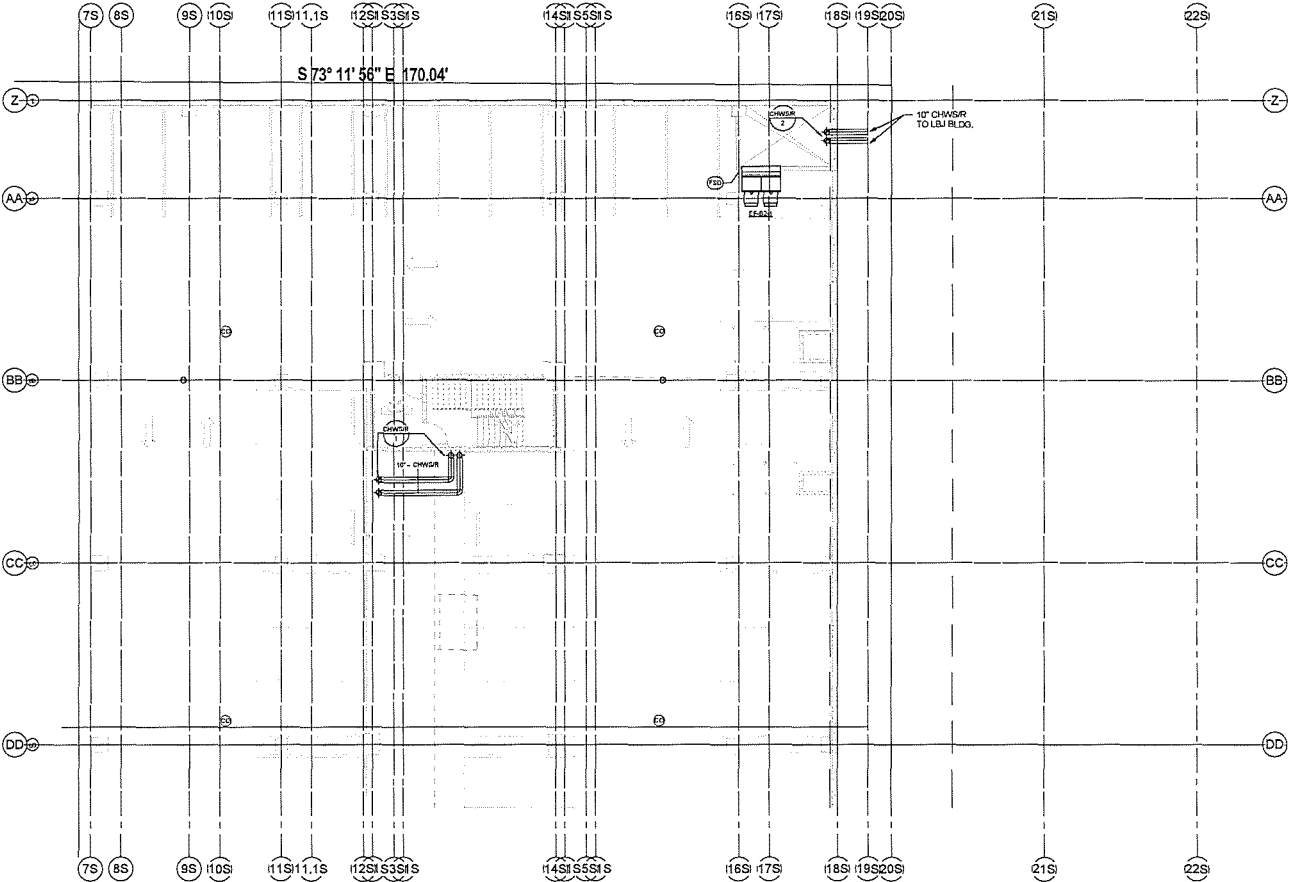
1001 CONGRESS AVE, AUSTIN, TEXAS

DATE
11/01/19

SHEET NAME
**MECHANICAL PLAN -
LEVEL B4-B3 SECTOR
2**

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3B42



1/8" = 1'-0"

MECHANICAL PLAN - LEVEL B2 SECTOR 1 | 1

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Mechanical Engineering Support Enright Payne & Schreyer	MEP Engineering Support Vicki Consulting Engineers Houston
Low Voltage/Electrical Duncan	Parking Consulting HWA Parking
Vertical Transportation Preston-Harris & Associates	Code Consulting James Hughes
Envelope Consulting Wills, Jones, Dwyer Associates, Inc.	Acoustical Consulting Gulf Consulting
Envelope Commissioning Turner/PCE Group	Building Commissioning HVS

Benjamin C. Wills
Professional Engineer
State of Texas

KEYPLAN

REVISIONS

Issued for Construction		01 NOV 2018
1	Issued for 100% CD	07 SEP 2018
2	Issued for 90% CD	12 JUL 2018
3	Issued for 50% CD	03 MAY 2018
4	CD PACKAGE SET	15 APR 2018
5	CD PACKAGE SET	04 FEB 2018
6	Early CD Program Set	21 DEC 2017
7	Early CD	18 DEC 2017
Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION: 01 NOV 2018
TFC PROJECT NUMBER: 17-017-0020
KIRKSEY PROJECT NUMBER: 2017145

CapCom Package 5 1601 Congress

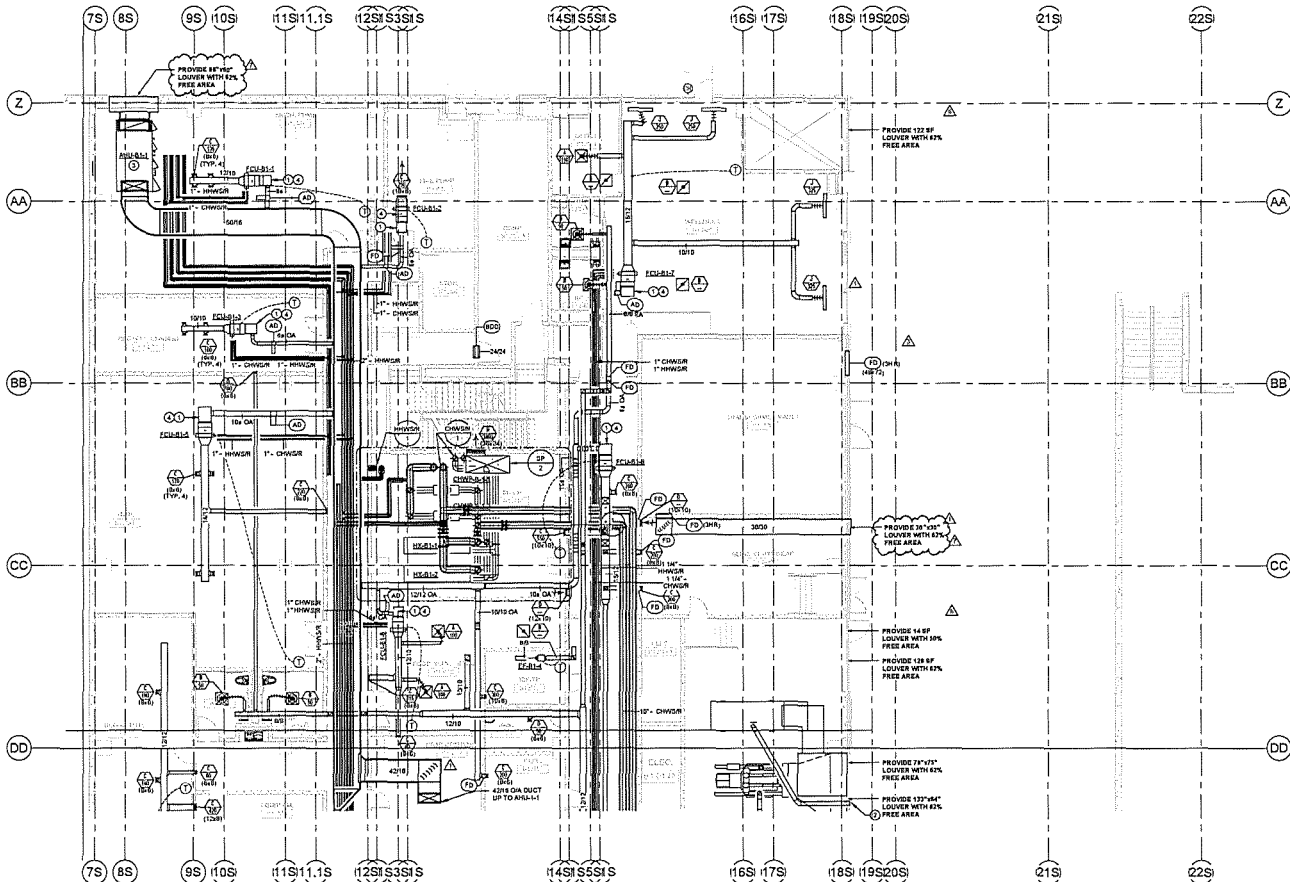
1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
11/01/19

SHEET NAME
MECHANICAL PLAN -
LEVEL B2 SECTOR 1

PACKAGE NUMBER SHEET NUMBER
5C16 M2.3B21

- MECHANICAL KEYED NOTES
- 1 PROVIDE DUCTED RETURN PLENUM AT FULL SIZE OF RETURN AIR OPENING.
 - 2 REFER TO DETAIL M4.100405 AND M4.100406 FOR GENERATOR EXHAUST DETAILS.
 - 3 ROUTE 1" CONDENSATE DRAIN TO THE FLOOR DRAIN LOCATED IN THE AVE MECHANICAL ROOM.
 - 4 ROUTE CHILLED WATER AND HEATING HOT WATER TO FAN COIL UNIT. ROUTE 1" CONDENSATE LINE TO THE NEAREST FLOOR DRAIN.



TEXAS FACILITIES COMMISSION
1711 San Jacinto Blvd.
Austin, Texas 78701
512.463.3417



ARCHITECT OF RECORD
Kirksey
ARCHITECTURE
6005 NORTHWEST DRIVE
HOUSTON, TX 77054

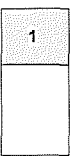
MASTER ARCHITECT
Page: 1 (continued) Page: 100
400 W. CEDAR CHURCH STREET, SUITE 100
AUSTIN, TX 78701

CONSULTANT TEAM

Chief Engineer Gates EMC	Landscape Architecture Culbertson & Associates
Structural Engineering Design/Holmes/Whitely	MEP Engineering Support Wiley Consulting Engineers Excelsior
Low Voltage/Electrical Datacom	Parking Consulting JWA Parking
Vertical Transportation Pascarella/Harris & Associates	Code Consulting Harris/Hopkins
Envelope Consulting Wiss, Janney, Elstner Associates, Inc.	Acoustical Consulting CLT Consulting
Envelope Commissioning Tetraenviro Group	Building Commissioning HKS



KEYPLAN



REVISIONS

Number	Description	Date
1	ISSUED FOR CONSTRUCTION	01 NOV 2018
2	ISSUED FOR CONSTRUCTION	01 NOV 2018
3	ISSUED FOR CONSTRUCTION	01 NOV 2018
4	ISSUED FOR CONSTRUCTION	01 NOV 2018
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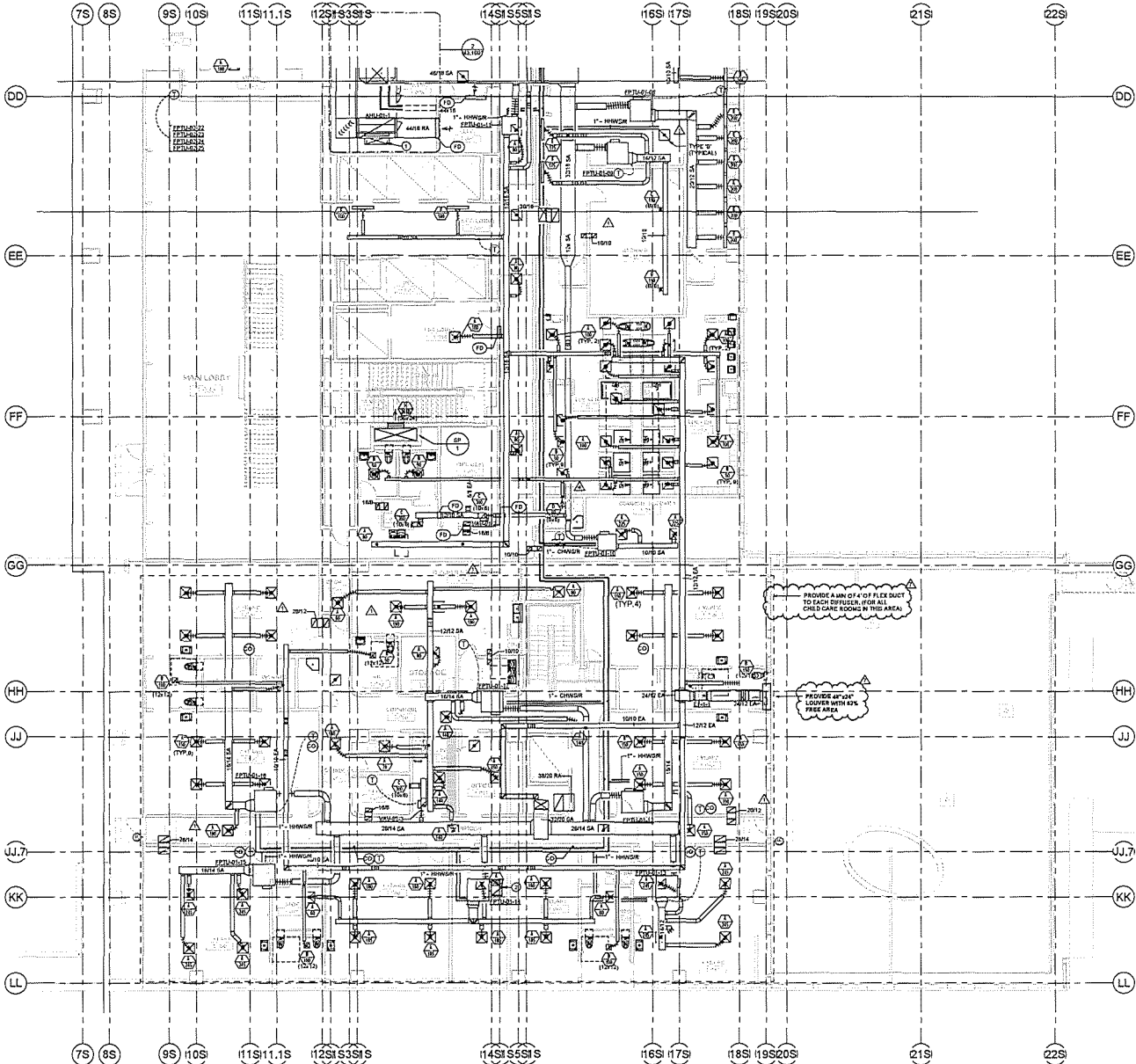
CapCom Package 5 1601 Congress

1601 CONGRESS AVE, AUSTIN, TEXAS
DATE
06/29/20
SHEET NAME
**MECHANICAL PLAN -
LEVEL B1 SECTOR 1**

PACKAGE NUMBER SHEET NUMBER
5C16 M2.3B11

MECHANICAL KEYED NOTES

- 1 42X16 OIA DUCT DOWN FROM LEVEL BELOW.
- 2 PROVIDE ACCESS PANEL FOR THE FAN COIL UNIT IN THE GYP. CEILING. COORDINATE EXACT LOCATION WITH THE ARCHITECT.



1/8" = 1'-0"

MECHANICAL PLAN - LEVEL 01 SECTOR 2 | 1

TEXAS FACILITIES COMMISSION
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Austin, Texas 78701
512.463.3471



ARCHITECT OF RECORD

Kirksey
ARCHITECTURE

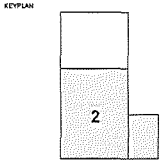
6500 FORTWORTH DRIVE
HOUSTON, TX 77054

MAJOR ARCHITECT

Page | Southland Paper, Inc.
400 W. CECIL CHAVEZ STREET, SUITE 400
AUSTIN, TX 78701

CONSULTANT TEAMS

Civil Engineering Geste EMC	Landscape Architecture Cabrera & Associates
Structural Engineering Design Group, Inc.	M&P Engineering Support Web Consulting Engineers Chesnut
Low Voltage/Security Diverse	Parking Consulting HWA Parking
Vertical Transportation Protein Motion & Associates	Code Consulting James Hughes
Brickwork Consulting Wick, James, Connor Associates, Inc.	Acoustical Consulting GFL Consulting
Envelope Commissioning Tennant BEE Group	Building Commissioning HVS



REVISIONS

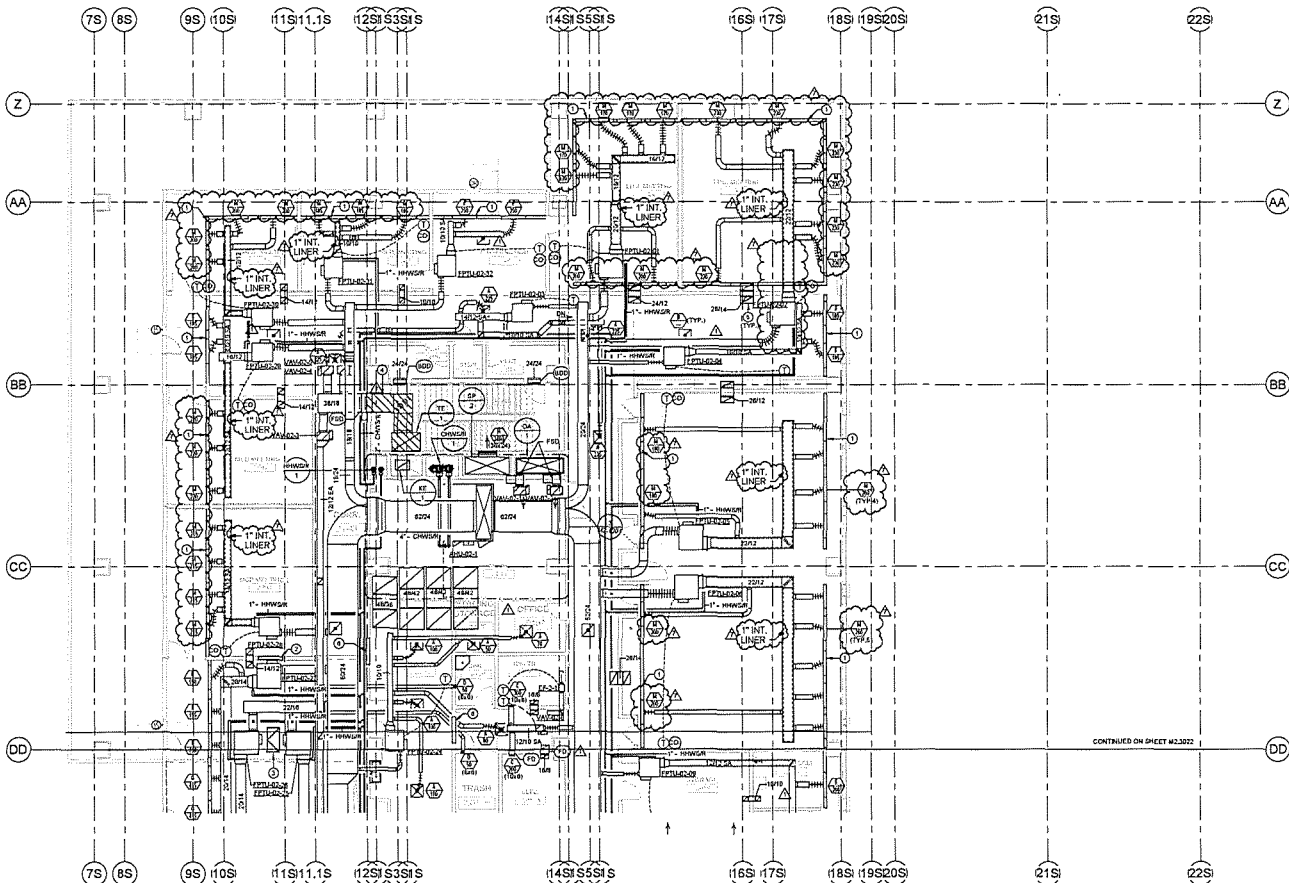
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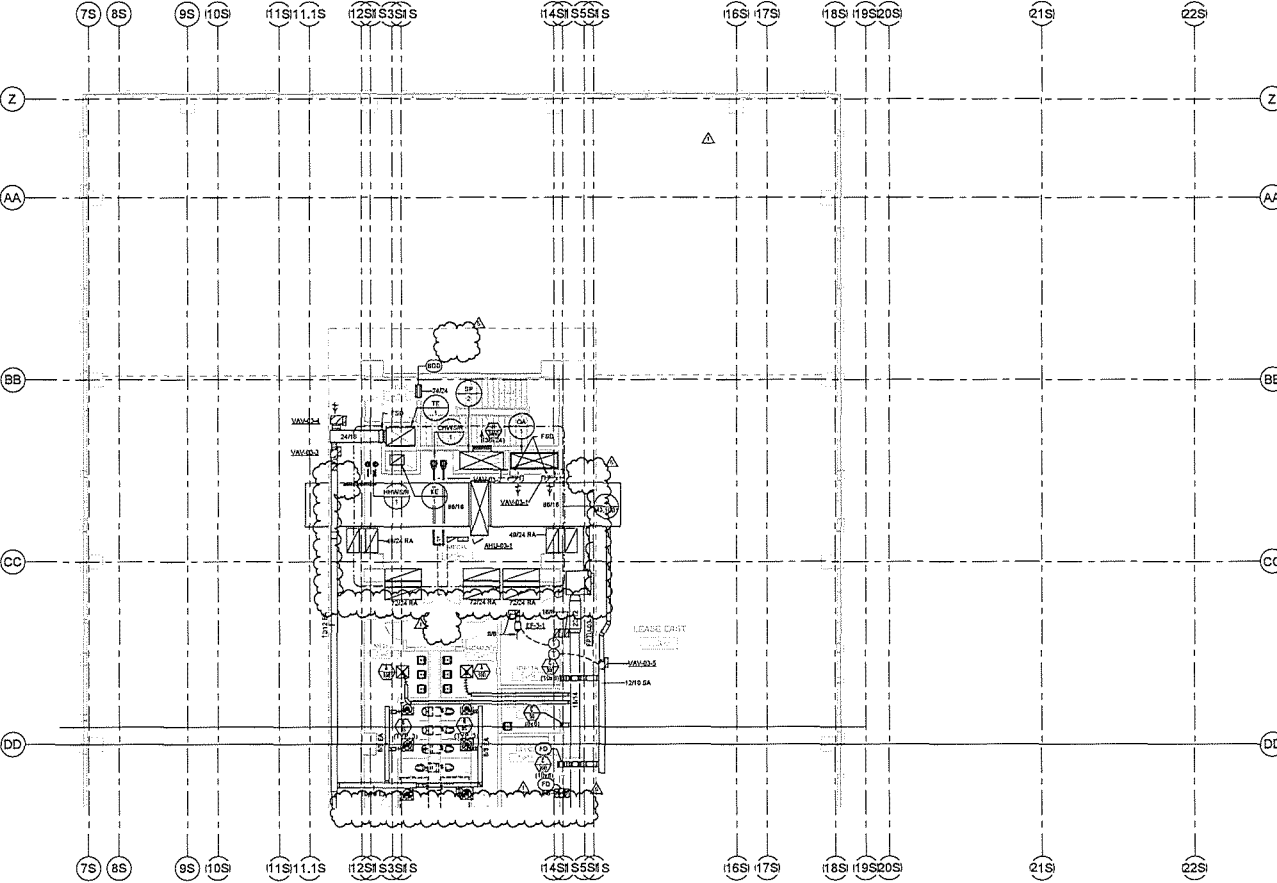
CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS
DATE
06/29/20
SHEET NAME
**MECHANICAL PLAN -
LEVEL 01 SECTOR 2**

PACKAGE NUMBER SHEET NUMBER
5C16 M2.3012

- MECHANICAL KEYED NOTES**
1. PROVIDE A 2-3/4" WIDTH CONTINUOUS SLOT TRACK AS SHOWN. PROVIDE PERFORATED PLATE PAINTED FLAT BLACK FOR RETURN AIR AT UNUSED SECTIONS. COORDINATE WITH ARCHITECT.
 2. PROVIDE ACCESS PANEL FOR THE FAN COIL UNIT IN THE WALL ABOVE CEILING. COORDINATE EXACT LOCATION WITH THE ARCHITECT.
 3. PROVIDE ACCESS PANEL FOR THE FAN COIL UNIT IN THE GYP. CEILING. COORDINATE EXACT LOCATION WITH THE ARCHITECT.
 4. PROVIDE 2HR ENCLOSURE AROUND THE EXHAUST DUCT MAINTAINING THE SAME RATING AS THE STAIRS.
 5. PROVIDE NEW RETURN AIR BOOT WITH 2" 2# INTERNAL SOUND LINING. INTERNAL FREE AREA AS INDICATED. COORDINATE UNIT PLACEMENT AND UPRIGHT LOCATIONS WITH STRUCTURE. REFER TO DETAILS M4.1001/1.
 6. PROVIDE A 52"x44" FRAMED OPENING ON THE FULL HEIGHT WALL ABOVE THE CEILING.





1/8" = 1'-0"

MECHANICAL PLAN - LEVEL 03-10 SECTOR 1 | 1

TEXAS FACILITIES
COMMISSION
1711 San Jacinto Blvd.
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ARCHITECT OF RECORD

Kirksey
ARCHITECTURE

8801 PORTWORTH DRIVE
HOUSTON, TX 77064

MASTER ARCHITECT

Page / Southland Paper, Inc.,
400 W. CEDAR CHURCH STREET, SUITE 600
AUSTIN, TX 78701

CONSULTANT TEAMS

Chief Engineering Cesar EMC	Landscape Architecture Cabrera & Associates
Structural Engineering Coughlin & Winters	MEP Engineering Support Wiley Consulting Engineers Eckhardt
Low Voltage/Utility Cabrera	Parking Consulting HWA Parking
Vertical Transportation Perrin & Associates	Code Consulting Cabrera & Associates
Envelope Consulting Wiley, Jerny, O'Brien Associates, Inc.	Acoustical Consulting SLR Consulting
Envelope Commissioning Tutor Perini Group	Building Commissioning Tutor Perini Group



KEYPLAN



REVISIONS

Number	Description	Date
1	ISSUED FOR CONSTRUCTION	07 APR 2018
2	Revised for 100% CD	01 NOV 2018
3	Revised for 100% CD	27 SEP 2018
4	Revised for 100% CD	12 JUL 2018
5	Revised for 100% CD	04 MAY 2018
6	CD PROCESS SET	04 MAY 2018
7	CD PROCESS SET	04 FEB 2018
8	Link CD Progress Set	21 DEC 2018
9	100% CD	28 OCT 2018

ISSUED FOR CONSTRUCTION: 01 NOV 2018
TFC PROJECT NUMBER: 17401-0000
KIRKSEY PROJECT NUMBER: 2017148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

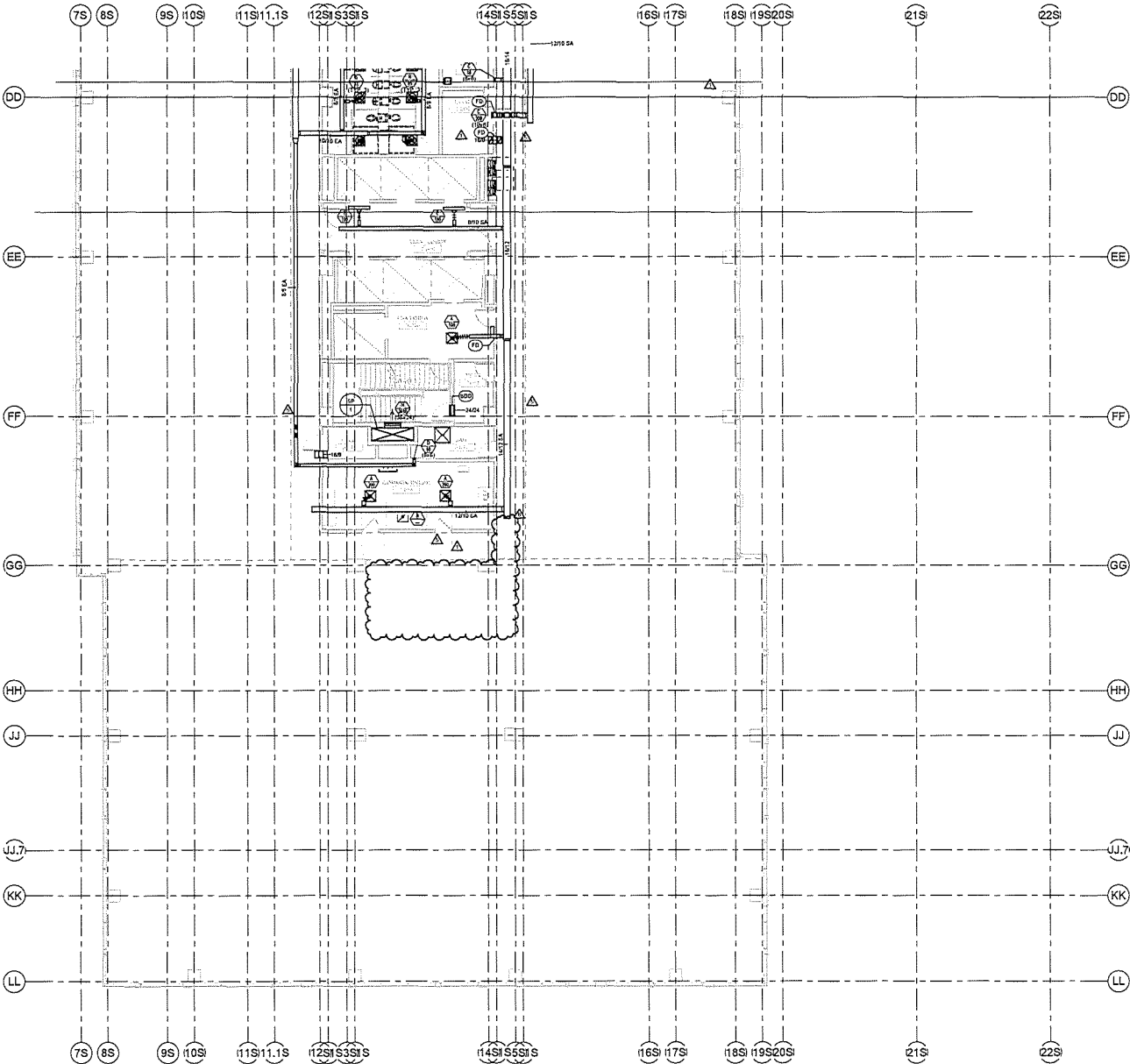
04/27/20

SHEET NAME

**MECHANICAL PLAN -
LEVEL 03-10 SECTOR 1**

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3031



1/8" = 1'-0"

MECHANICAL PLAN - LEVEL 03-10 SECTOR 2 | 1

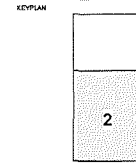
TEXAS FACILITIES COMMISSION
1711 San Jacinto
Bldg.
Austin, Texas 78701



ARCHITECT OF RECORD
Kirksey
ARCHITECTURE
8903 NORTHWEST DRIVE
HOUSTON, TX 77054

MASTER ARCHITECT
Page / Section / Page, Inc.
400 W. CEDAR CHAVEZ STREET, SUITE 400
AUSTIN, TX 78701

CONSULTANT TEAMS	
Civil Engineering Gates EMC	Landscape Architecture Calkins & Associates
Structural Engineering Design Systems Willsie	MEP Engineering Support Willsie Consulting Engineers Cousins
Low Voltage/Security Gutierrez	Parking Consulting HWA Parking
Medical Transportation Procedures & Associates	Code Consulting James Hughes
Facilities Consulting W.A. Jones, Owner Associates, Inc.	Acoustical Consulting SLR Consulting
Exterior Commissioning Tennant DCS Group	Building Commissioning HVS



REVISIONS		
Number	Description	Date
Revision Schedule		
1	ISSUED FOR CONSTRUCTION	01 NOV 2019
2	TXC PROJECT NUMBER	17401-14-020
3	KIRKSEY PROJECT NUMBER	2017148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS
DATE
08/10/20
SHEET NAME
**MECHANICAL PLAN -
LEVEL 03-10 SECTOR 2**

PACKAGE NUMBER SHEET NUMBER
5C16 M2.3032

1 1" HORIZONTAL LINES VALVED AND CAPPED FOR FUTURE USE.



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ARCHITECTURE

MASTER ARCHITECT

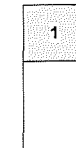
Page / Boulevard Page, Inc.
400 W. CESAR CHAVEZ STREET, SUITE 100
ALHAMBRA, TX 75001

CONSULTANT TEAMS

<p>Cell Engineering Gazco EMC</p> <p>Structural Engineering Enright Haynes Whalley</p> <p>Low Voltage/Security Dafcom</p> <p>Vertical Transportation Parschuhn & Associates</p> <p>Envelope Consulting Wise, Jamy, Dilzer Associates, Inc.</p> <p>Envelope Commissioning Tetracon/BCS Group</p>	<p>Landscape Architecture Culbert & Associates</p> <p>MCH Engineering Support Wyle Consulting Engineers Excelach</p> <p>Parking Consulting HWA Parking</p> <p>Cost Consulting Jensen Hughes</p> <p>Acoustical Consulting GJR Consulting</p> <p>Building Commissioning HNS</p>
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KEY PLAN



REVISIONS

S	ASB 006	27 APR 2020
I	Issued for Construction	01 NOV 2018
J	Issued for 100% CD	27 SEP 2019
L	Issued for 50% CD	12 JUL 2019
H	Issued for 55% CD	03 MAY 2019
O	CD PROGRESS SET	15 APR 2018
P	CD PROGRESS SET	04 FEB 2019
S	Early CD Progress Set	21 DEC 2018
A	100% CD	26 OCT 2018

Number	Description	Date
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ISSUED FOR CONSTRUCTION:	01 NOV 2018
TFC PROJECT NUMBER:	17-017-6020
KIRKSEY PROJECT NUMBER:	2017148

CapCom Package 5 1601 Congress

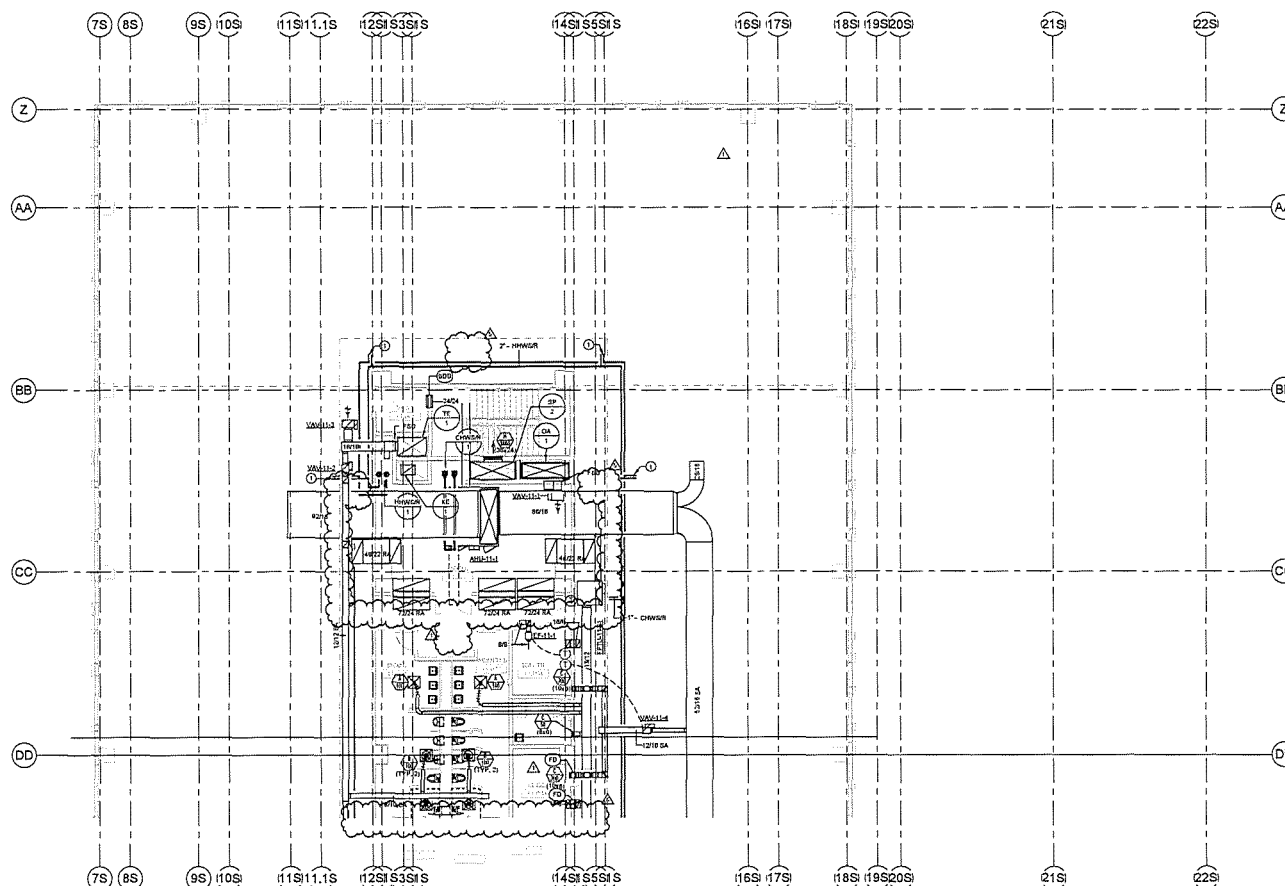
1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
04/27/20

**MECHANICAL PLAN -
LEVEL 11 SECTOR 1**

PACKAGE NUMBER	SHEET NUMBER
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5C16 M2.3111



1/8" = 1'-0"

MECHANICAL PLAN - LEVEL 11 SECTOR 1 | 1

1 1" HDPE/LDPE LINES VALVED AND CAPPED FOR FUTURE USE.



ARCHITECT OF RECORD

6909 PORTWEST DRIVE
HOUSTON, TX 77024

MASTER ARCHITECT

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400 W. CESAR CHAVEZ STREET, SUITE 600
AUSTIN, TX 78701

CONSULTANT TEAMS

Civil Engineering
Garry EMC

STRUCTURAL Engineering
Enlighten Myones Voluntary

Low Voltage/Security

Vertical Transportation

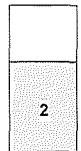
Parasharatham & Associates

Envelope Consulting
WHL, Janey, Elaine Associ.

Envelope Compression
Tetecan/BCE Group



KEYPLAN



REVISIONS

5	AGI GDS	27 APR 2020
1	Issued for Construction	01 NOV 2019
J	Issued for 100% CD	27 SEP 2019
I	Issued for 95% CD	12 JUL 2019
H	Issued for 85% CD	03 MAY 2019
G	CD PROGRESS GUY	15 APR 2018
F	CD PROGRESS GUY	04 FEB 2019
B	Early CD Progress Set	21 DEC 2018
A	100% GDS	28 OCT 2018

Number	Description	Date
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ISSUED FOR CONSTRUCTION:

01 NOV 2018

TFC PROJECT NUMBER:

17-017-0320

KIRKSEY PROJECT NUMBER: _____

201748

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE _____

04/27/20

SHEET NAME

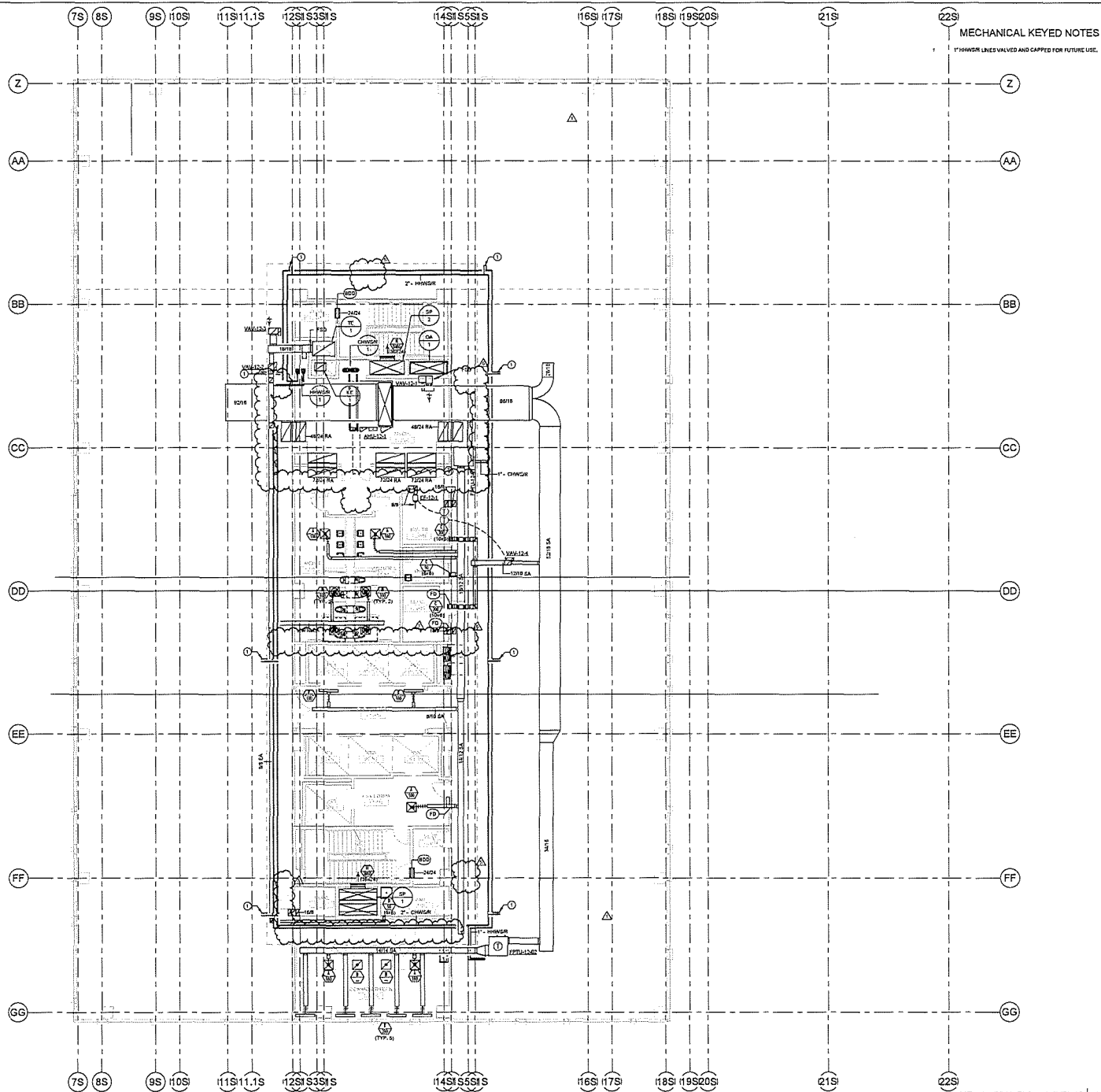
MECHANICAL PLAN -
LEVEL 11 SECTOR 2

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3112

1/8" = 1'-0"

MECHANICAL PLAN - LEVEL 11 SECTOR 2 | 1



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COMMISSION
1711 San Jacinto Blvd.
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512.463.3417



ARCHITECT OF RECORD

Kirksey
ARCHITECTURE

8608 PORTWORTH DRIVE
HOUSTON, TX 77064

MASTER ARCHITECT

Page / Southernland Page, Inc.
400 W. CESAR CHAVEZ STREET, SUITE 100
AUSTIN, TX 78701

CONSULTANT TEAMS

Chief Engineering

Debra SMC

Structural Engineering

Cheng Heng Heng

Low Voltage/Electrical

Debra SMC

Vertical Transportation

Perkins+Will, Inc.

Envelope Consulting

Wux, James, Glavin Associates, Inc.

Envelope Consulting

Tarrant RES Group

Landscape Architecture

Colburn & Associates

MEP Engineering Support

Wynn Consulting Engineers

Enclave

Parking Consulting

HWB Parking

Code Consulting

James Hynes

Acoustical Consulting

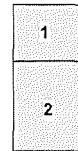
SLR Consulting

Building Commissioning

HWB



KEYPLAN



REVISIONS

Number	Description	Date
1	ADD 000	27 APR 2020
2	Revised for Construction	01 NOV 2019
3	Revised for 100% CD	27 SEP 2019
4	Revised for 90% CD	12 JUL 2019
5	Revised for 80% CD	10 MAY 2019
6	CD PROGRESS SET	19 APR 2019
7	CD PROGRESS SET	04 MAR 2019
8	CD PROGRESS SET	21 DEC 2018
9	CD PROGRESS SET	28 OCT 2018

ISSUED FOR CONSTRUCTION:

01 NOV 2019

TFC PROJECT NUMBER:

174205003

KIRKSEY PROJECT NUMBER:

201748

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

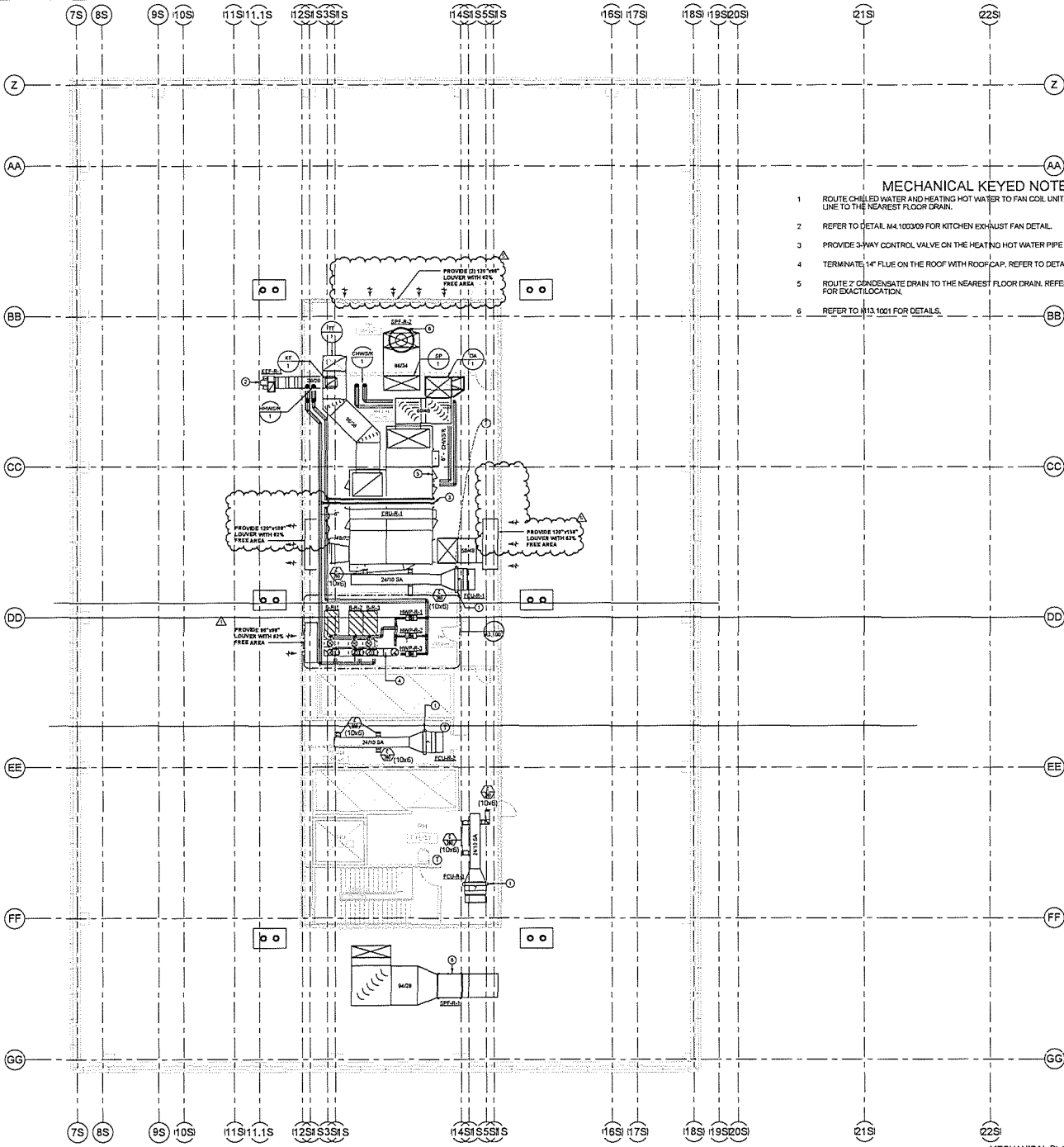
04/27/20

SHEET NAME

**MECHANICAL PLAN -
LEVEL 12**

PACKAGE NUMBER SHEET NUMBER

5C16 M2.3121



- MECHANICAL KEYED NOTES**
1. ROUTE CHILLED WATER AND HEATING HOT WATER TO FAN COIL UNIT, ROUTE 1" CONDENSATE LINE TO THE NEAREST FLOOR DRAIN.
 2. REFER TO DETAIL M4.100309 FOR KITCHEN EXHAUST FAN DETAIL.
 3. PROVIDE 3-WAY CONTROL VALVE ON THE HEATING HOT WATER PIPE AT ERU-R-1.
 4. TERMINATE 1/4" FLUE ON THE ROOF WITH ROOF CAP, REFER TO DETAIL M4.10044.
 5. ROUTE 2" CONDENSATE DRAIN TO THE NEAREST FLOOR DRAIN, REFER TO PLUMBING DRAWINGS FOR EXACT LOCATION.
 6. REFER TO M13.1001 FOR DETAILS.

TENNESSEE FACILITIES COMMISSION
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Austin, Texas 78701
512.463.3417

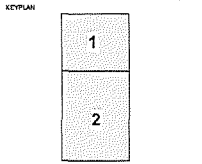


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Page / Southland Page, Inc.
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CONSULTANT TEAMS

Civil Engineering Gore CMC	Landscape Architecture Calkins & Associates
Structural Engineering Engelmann-Willey	Mechanical Engineering Wade Consulting Engineers, Inc.
Low Voltage/Electrical Garcia	Parking Consulting H&B Parking
Vertical Transportation Preston & Associates	Cost Consulting James August
Envelope Consulting Wiss, Janney, Elstner Associates, Inc.	Acoustical Consulting SLR Consulting
Envelope Commissioning Turner BBS Drive	Building Commissioning NYS



REVISIONS

Number	Description	Date
1	ASB	07 APR 2020
2	Revised for Construction	01 NOV 2019
3	Revised for 100% CD	27 SEP 2019
4	Revised for 90% CD	12 JUL 2019
5	Revised for 80% CD	03 MAY 2019
6	CD PROGRESS SET	19 APR 2019
7	CD PROGRESS SET	04 FEB 2019
8	CD PROGRESS SET	01 DEC 2018
9	CD PROGRESS SET	24 OCT 2018

ISSUED FOR CONSTRUCTION: 01 NOV 2019
TFC PROJECT NUMBER: 17-013-0020
KIRKSEY PROJECT NUMBER: 2017148

CapCom Package 5 1601 Congress

1001 CONGRESS AVE., AUSTIN, TEXAS

DATE:
04/27/20

SHEET NAME:
MECHANICAL PLAN - LEVEL 13

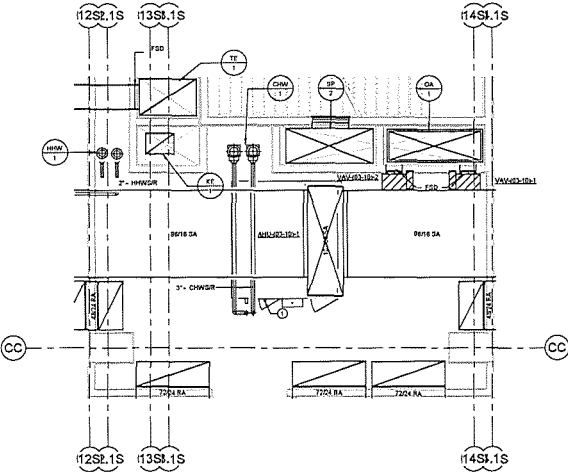
PACKAGE NUMBER: 5C16
SHEET NUMBER: M2.3131

1/8" = 1'-0"

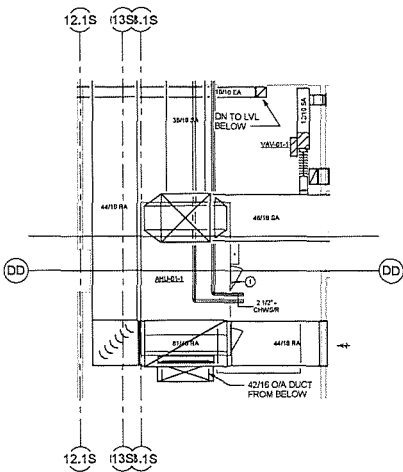
MECHANICAL PLAN - LEVEL 13 PH 1

MECHANICAL KEYED NOTES

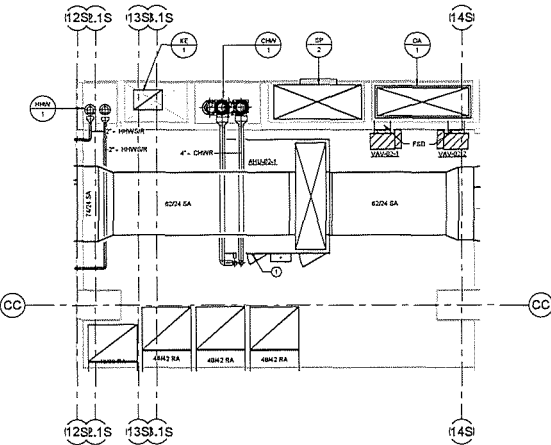
1 ROUTE 1" CONDENSATE DRAIN TO THE FLOOR DRAIN LOCATED IN THE A/C MECHANICAL ROOM.



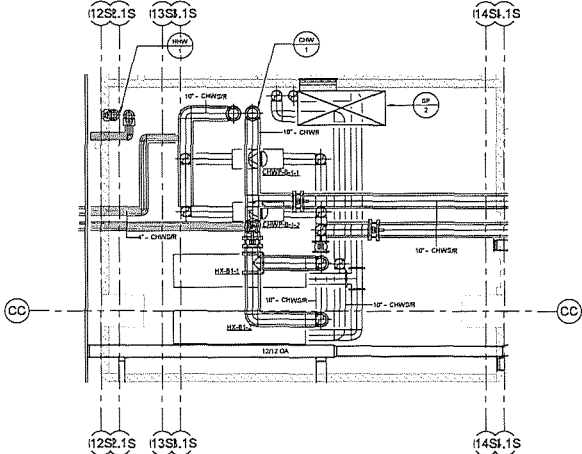
1/4" = 1'-0" ENLARGED PLAN - LEVEL 03-12 MECHANICAL ROOM | 4



1/4" = 1'-0" ENLARGED PLAN - LEVEL 01 MECHANICAL ROOM | 2



1/4" = 1'-0" ENLARGED PLAN - LEVEL 02 MECHANICAL ROOM | 3



1/4" = 1'-0" ENLARGED PLAN - B1 MECHANICAL ROOM | 1

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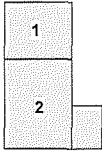
Page 1 | Southland Page, Inc.
400 W. CEDAR CHAVEZ STREET, SUITE 160
AUSTIN, TX 78701

CONSULTANT TEAMS

Chief Engineering Garcia SAC	Landscape Architecture Coleman & Associates
Structural Engineering Loughry/Holmes/Stratton	MVP Engineering Support Wyle Consulting Engineers Stratton
Low Voltage/Electrical Dolan	Parking Consulting HWA, Parking
Vertical Transportation Pencaburn/Holmes/Stratton	Code Consulting James Hughes
Envelope Consulting Wiley, James, Strain Associates, Inc.	Acoustical Consulting B&K Consulting
Envelope Commissioning Turner B&B Group	Building Commissioning HWA



KEY PLAN



REVISIONS

Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION: 01 NOV 2019
TFC PROJECT NUMBER: 174574029
KIRKSEY PROJECT NUMBER: 2071447

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

11/01/19

SHEET NAME

**MECHANICAL
ENLARGED PLANS**

PACKAGE NUMBER SHEET NUMBER

5C16 M3.1001

MECHANICAL KEYED NOTES

1. ROUTE 1" CONDENSATE DRAIN TO THE FLOOR DRAIN LOCATED IN THE AT MECHANICAL ROOM.

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ARCHITECT OF RECORD

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MASTER ARCHITECT

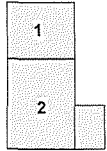
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4801 AL CLEGG CHANCE STREET, SUITE 100
AUSTIN, TX 78703

CONSULTANT TEAM:

Civil Engineering Gens DAC	Landscape Architecture Coburn & Associates
Structural Engineering Knight/Tracy/Tracy	MEP Engineering Support Wyle Consulting Engineers Encl 10
Low Voltage/Security Dalecom	Parking Consulting HWA Parking
Vertical Transportation Pensacola & Associates	Code Consulting Jensen/Tracy
Envelope Consulting Wiley, Jolley, O'Brien Associates, Inc.	Acoustical Consulting GLK Consulting
Envelope Commissioning Turner/DCS Group	Building Commissioning HWA



KEYPLAN



REVISIONS

Number	Description	Date
1	Issued for Construction	01 NOV 2019
2	Issued for 100% CD	27 SEP 2019
3	Issued for 90% CD	22 SEP 2019

Revision Schedule
ISSUED FOR CONSTRUCTION: 01 NOV 2019
TFC PROJECT NUMBER: 154714029
KIRKSEY PROJECT NUMBER: 2017146

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

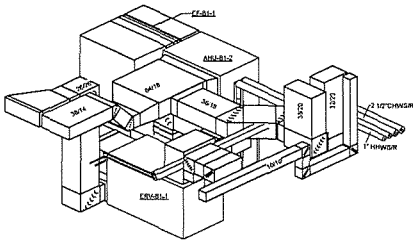
11/01/19

SHEET NAME

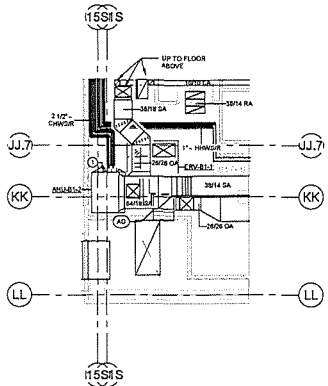
**MECHANICAL
ENLARGED PLANS**

PACKAGE NUMBER SHEET NUMBER

5C16 M3.1002

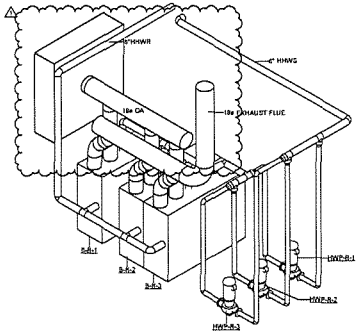


ISO B1 CDC MECH ROOM | 4

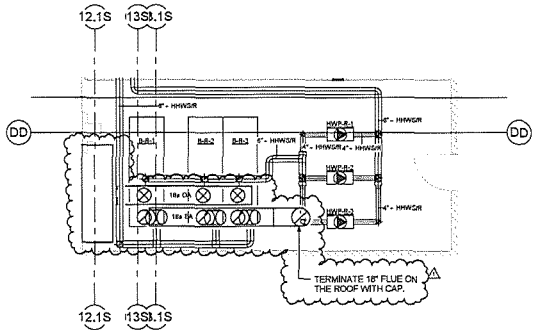


1/8" = 1'-0"

ENLARGED MECHANICAL PLAN - LEVEL B1 SECTOR 2 | 2



ISO PENTHOUSE BOILER ROOM | 3



1/4" = 1'-0"

ENLARGED PLAN - LEVEL 13 PH BOILER ROOM | 1

MINIMUM 3/4" THICK FIRE-STOP SEALANT (SEE SPECS.)

120V (OR SMALLER) STEEL PIPE OR 60 (OR SMALLER) COPPER PIPE (SEE SPECS.)

FIBER GLASS INSULATION (SEE SPECS.)

MINIMUM 1/2" THICK MINERAL WOOL (M-4) PACK THICKLY PACKED (SEE SPECS.)

PRESTOP AROUND PERIMETER OF STEEL SLEEVE (SEE SPECS.)

STEEL SLEEVE (SEE SPECS.)

NOTES:

1. 2 HR. FIRE RATED WALL ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS.

DETAIL #M-DET052

14 INSULATED PIPE THROUGH TO SLEEVE DETAIL

SCALE: NONE

CIRCUIT BOARD CASE

1" FULL PORT BALL VALVE. REFER TO SPECS.

THREEDOLET. REFER TO SPECS.

FLOW

CHILLED WATER RETURN LINE

1/2" PIPE DIAMETER MIN. TO 1/2" PIPE FITTING

3" PIPE DIAMETER MIN. TO 1/2" PIPE FITTING

NOTE:

1. STANDARD INSTALLATION LAYOUT FOR SINGLE TURN-THRU FLOW METER

2. 1" NPT BRANCH OUTLET.

3. 1" CLOSE NIPPLE.

4. HOT TAP ADAPTER.

5. POSITION CLAMPING MIT.

1" MINIMUM DIAMETER ACCESS HOLE

DETAIL #M-DET053

11 INSERTION FLOW METER INSTALLATION DETAIL

SCALE: NONE

PIPE RISER CLAMP (SEE NOTE 2.)

SPRING ISOLATORS (SEE SPECIFICATIONS)

FLOOR SLAB

PIPE SLEEVE (SEE SPECIFICATIONS)

PPHO INSULATION (SEE SPECIFICATIONS)

PPIPE

NOTES:

1. TYPICAL PIPE SUPPORT FOR 1/2" PIPE AND SMALLER.

2. INSULATE RISER CLAMPS OR CHILLED WATER RISER ONLY WITH SAME THICKENED INSULATION AS CHILLED WATER RISER.

3. SUPPORT ASSEMBLY TO BE SUBMITTED TO AND APPROVED BY THE STRUCTURAL ENGINEER.

DETAIL #M-DET058

7 VERTICAL PIPE SUPPORT DETAIL

SCALE: NONE

1/2" PIPE DIAMETER MINIMUM (SEE SPECS.)

STOP VALVE. REFER TO SPECS.

TEST PLUG. REFER TO SPECS.

STRAIGHTENING VAS. REFER TO SPECS.

TORING FLOW METER. REFER TO SPECS.

DRAIN LINE TO NEAREST FLOOR DRAIN. REFER TO FLOOR PLAN FOR DRAIN LOCATION.

TEST PLUG. REFER TO SPECS.

NOTES:

1. REFER TO PIPING SCHEMATIC FOR ALL SPECS.

2. FLOW TUBE LENGTH AS REQUIRED BY MANUFACTURER.

3. INITIAL EXTENSION NEAR TEST WELL IN CHNG AND R FOR TEMPERATURE SENSOR.

DETAIL #M-DET059

03 BTU FLOW METER DETAIL

SCALE: NONE

CHILLED WATER SUPPLY LINE

CHILLED WATER RETURN LINE

STOP VALVE (SEE SPECS.)

PRESSURE GAUGE WITH RANGE CODE (SEE SPECS.)

1/4" TURN QUICK CLOSURE (SEE SPECIFICATION)

PRESSURE RATIO POT FEEDER MINIMUM CAPACITY 1/2" OF SYSTEM VOLUME (SEE SPECS.)

UNION - SEE SPECS.

TEST PLUG - SEE SPECIFICATIONS

JOINT GLASS OR FLOW INDICATOR

3/4" DRAIN VALVE W/ HOSE CONNECTION AND PAD (SEE SPECIFICATIONS)

CONCRETE HOUSING (SEE PAD, SEE SPECIFICATIONS)

DETAIL #M-DET060

10 CHEMICAL POT FEEDER DETAIL

SCALE: NONE

BALANCING VALVE (TYPICAL)

3-WAY CONTROL VALVE

UNION (TYPICAL)

RETURN

SUPPLY

TYPICAL FOR TWO (2) OR MORE STACKED COILS. REFER TO SPECIFICATION

DETAIL #M-DET061

6 STACKED COOLING COIL DETAIL

SCALE: NONE

11

12

13

14

15

16

17

18

NOTES:

1. BELT DRIVE SQUARE CENTRIFUGAL IN LINE FAN - SEE FAN SCHEDULES

2. SPRING VIBRATION ISOLATOR - REFER SPECIFICATIONS

3. THRUST RESISTOR SPRING - SEE DETAIL - REFER TO SPECIFICATION

4. FLEXIBLE CONDUIT - BY GORDON 18

5. RIDGE CONDUIT - BY GORDON 18

6. FLEXIBLE CONNECTOR - REFER TO SPECIFICATIONS. FLEXIBLE CONNECTORS SHOULD BE LONG ENOUGH FOR MECHANICAL ISOLATION AND SHOULD BE TAUT.

7. STRUCTURE - REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS

8. MOTOR - ROTATE MOTOR TO END POSITION

9. 1/2" ALL THREADED ROD ATTACHED TO BUILDING STRUCTURE IN AN APPROVED MANNER

10. FIRESTAY WHERE SHOWN OR SPECIFIED

11. DUCT - REFER TO FLOOR PLANS FOR DUCT SIZE

12. DUCT TRANSITION AS REQUIRED (15" MAXIMUM) TYPICAL

13. BELT GUARD - BY FAN MANUFACTURER

14. HINGED ACCESS PANEL - BY FAN MANUFACTURER

15. SQUARE TO ROUND TRANSITION AS REQUIRED - (15" MAXIMUM) TYPICAL

16. BELT DRIVE TUBULAR CENTRIFUGAL IN LINE FAN - SEE FAN SCHEDULES

DETAIL #M-DET063

02 TYPICAL IN-LINE CENTRIFUGAL FAN DETAIL

SCALE: NONE

MINIMUM 3/4" THICK FIRE-STOP SEALANT (SEE SPECS.)

PRESTOP AROUND PERIMETER OF STEEL SLEEVE (SEE SPECS.)

MINIMUM 1/2" THICK MINERAL WOOL (M-4) PACK THICKLY PACKED (SEE SPECS.)

20V (OR SMALLER) STEEL PIPE OR 60 (OR SMALLER) COPPER PIPE (SEE SPECS.)

PRESTOP AROUND PERIMETER OF STEEL SLEEVE (SEE SPECS.)

NOTES:

1. 2 HR. FIRE RATED WALL ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS.

DETAIL #M-DET064

13 CLOSED SYSTEM EXPANSION TANK DETAIL

SCALE: NONE

TEMPERATURE LOCATED IN HORIZONTAL PIPE (SEE SPECS.)

EXTENSION NECK (SEE SPECS.)

THREEDOLET (SEE SPECS.)

3-1/2" MINIMUM EXTENSION FROM REGULATED PIPE

INSULATION (SEE SPECS.)

INSERTION LENGTH SCHEDULE

A = PIPE DIAMETER	B = INSERTION LENGTH
4" AND 5"	2'-10"
6" AND 8"	3'-0"
10" AND LARGER	3'-6"

DETAIL #M-DET065

9 THERMOMETER WELL DETAIL

SCALE: NONE

16 GA. GALV. STEEL PLATE BY INSULATION SUBCONTRACTOR

VAPOR SEAL PIPE INSULATION TO STEEL PLATE

UNION (SEE SPECS.)

1/2" PIPE DIAMETER

PIPE INSULATION BY INSULATION SUB CONTRACTOR (SEE TO SPECS.)

1/2" PIPE DIAMETER

VAPOR SEAL BETWEEN PIPE AND STEEL PLATE

COOLING COIL

INTERNAL AIR HANDLING UNIT INSULATION (BY MANUFACTURER)

NOTE: INSULATION REQUIREMENTS FOR CHILLED WATER PENOLAT AIR HANDLER UNIT COIL CONNECTION (SEE TO SPECS.)

DETAIL #M-DET069

5 DRAW-THROUGH UNIT DRAIN DETAIL

SCALE: NONE

VOLUME DAMPER

RIGID DUCTWORK

FLEXIBLE DUCTWORK

SCHEDULED AIR DEVICE. ACTUAL AIR DEVICE MAY VARY FROM AIR DEVICE SHOWN (SEE SPECS.)

LOCKING RACE & PINION OPERATOR

MOUNTING BRACKET

OPERATOR TO BE FIELD INSTALLED IN CONCEALED LOCATION IN DEVICE BACK PAN OR AIR FLEXIBLE

SOCKET WRENCH

DETAIL #M-DET070

01 INACCESSIBLE CEILING AIR DEVICE INSTALLATION (WHERE NOTED) (YOUNG REGULATOR 270-275)

SCALE: NONE

MINIMUM 3/4" THICK FIRE-STOP SEALANT (SEE SPECS.)

PRESTOP AROUND PERIMETER OF STEEL SLEEVE (SEE SPECS.)

MINIMUM 1/2" THICK MINERAL WOOL (M-4) PACK THICKLY PACKED (SEE SPECS.)

20V (OR SMALLER) STEEL PIPE OR 60 (OR SMALLER) COPPER PIPE (SEE SPECS.)

PRESTOP AROUND PERIMETER OF STEEL SLEEVE (SEE SPECS.)

NOTES:

1. 2 HR. FIRE RATED WALL ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS.

DETAIL #M-DET073

12 PIPE THROUGH TO SLEEVE DETAIL

SCALE: NONE

MANUAL AIR VENT WITH PLUG (TYPICAL)

PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE

PRESSURE/TEMPERATURE TEST PLUG (TYPICAL)

BALANCING VALVE (SEE SPECIFICATIONS)

STOP VALVE (SEE SPECS.)

UNION (TYPICAL)

RETURN

SUPPLY

DETAIL #M-DET074

8 TYPICAL 2-WAY CONTROL VALVE

SCALE: NONE

16 GA. GALV. STEEL PLATE BY INSULATION SUBCONTRACTOR

VAPOR SEAL PIPE INSULATION TO STEEL PLATE

UNION (SEE SPECS.)

1/2" PIPE DIAMETER

PIPE INSULATION BY INSULATION SUB CONTRACTOR (SEE TO SPECS.)

1/2" PIPE DIAMETER

VAPOR SEAL BETWEEN PIPE AND STEEL PLATE

COOLING COIL

INTERNAL AIR HANDLING UNIT INSULATION (BY MANUFACTURER)

NOTE: INSULATION REQUIREMENTS FOR CHILLED WATER PENOLAT AIR HANDLER UNIT COIL CONNECTION (SEE TO SPECS.)

DETAIL #M-DET075

4 AHU CASING PENETRATION DETAIL

SCALE: NONE

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Structural Engineering
Doug Hays-Walsh

Low Voltage/Security
Daniel

Vertical Transportation
Pinnacle Partners & Associates

Envelope Consulting
Wes. Jansz, (Other Associates), Inc.

Envelope Consulting
Tanner WES Group

Landscape Architecture
Cabrera & Associates

MEP Engineering Support
Wade Consulting Engineers
Dallas

Acoustical Consulting
SLR Consulting

Building Commissioning
HKS

STATE OF TEXAS

KEY PLAN

REVISIONS

Number	Description	Date
1	Issued for Construction	01 NOV 2019
2	Issued for 100% CD	27 SEP 2019
3	Issued for 90% CD	17 JUL 2019
4	Issued for 80% CD	03 MAY 2019
5	ISS PROGRESS SET	15 APR 2019
6	ISS PROGRESS SET	04 FEB 2019
7	ISS PROGRESS SET	01 DEC 2018
8	ISS PROGRESS SET	26 OCT 2018

Revision Schedule	
ISSUED FOR CONSTRUCTION	01 NOV 2019
TFC PROJECT NUMBER:	13-01-0020
KIRKSEY PROJECT NUMBER:	2017-145

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
11/01/19

SHEET NAME
MECHANICAL DETAILS

PAGE NUMBER SHEET NUMBER

5C16 M4.1002



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Civil Engineering
Mechanical Engineering
Electrical Engineering
Structural Engineering
Interior Design
Landscape Architecture
Civil Engineering
Mechanical Engineering
Electrical Engineering
Structural Engineering
Interior Design
Landscape Architecture



KEY PLAN

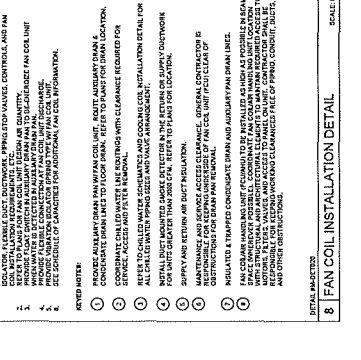
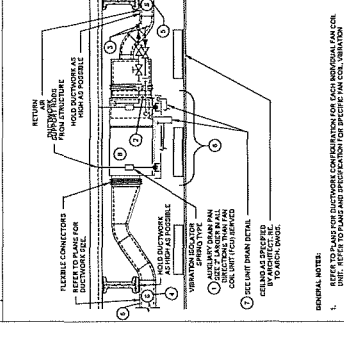
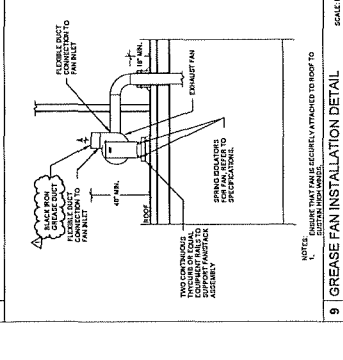
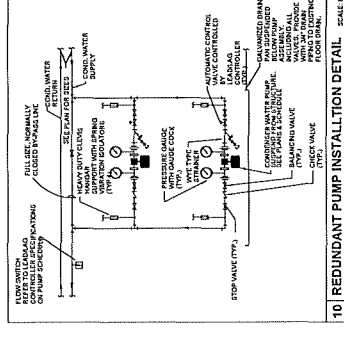
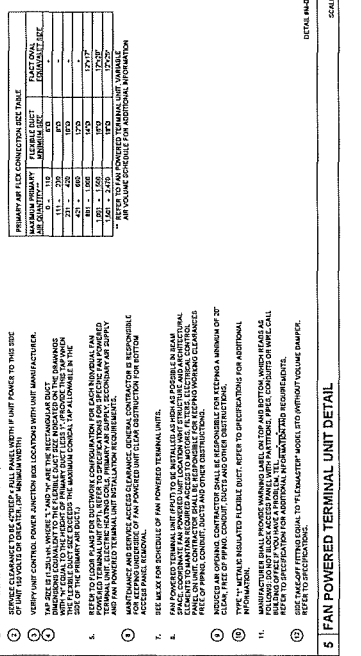
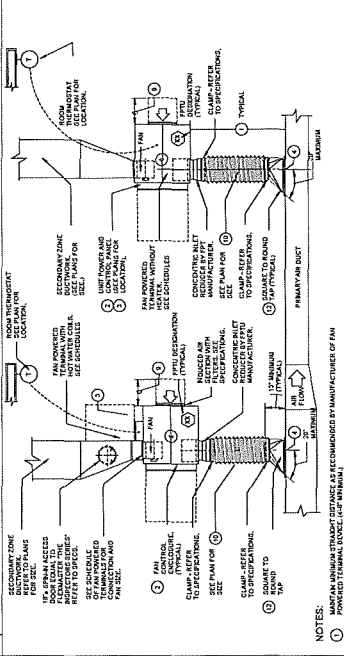
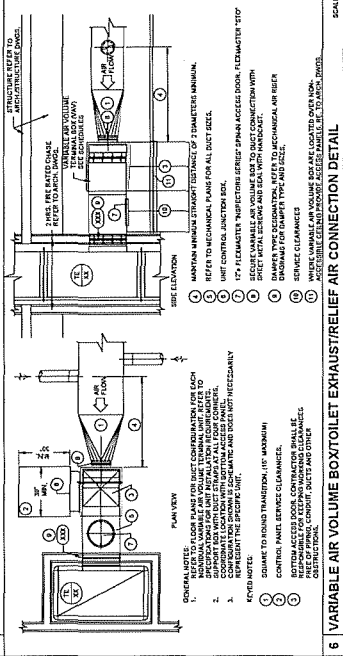
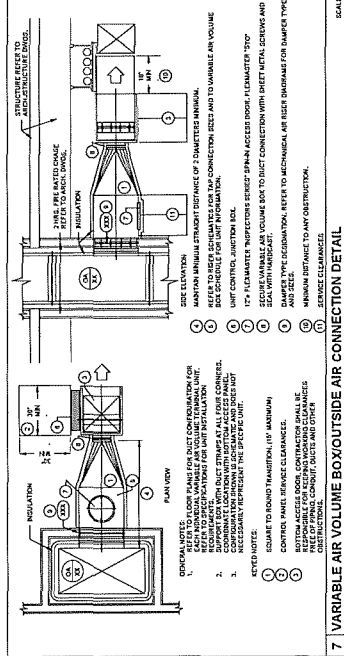
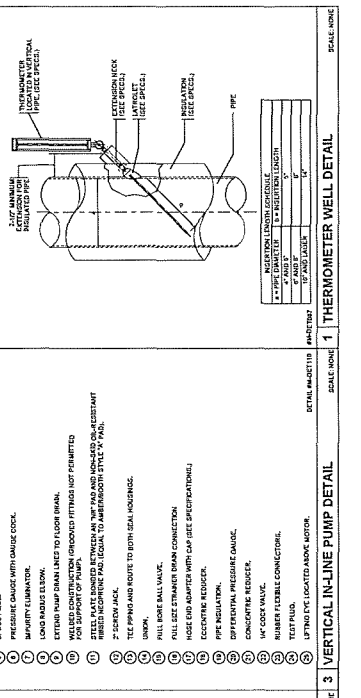
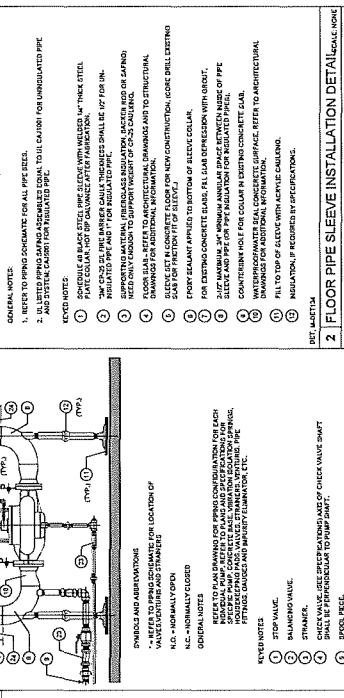
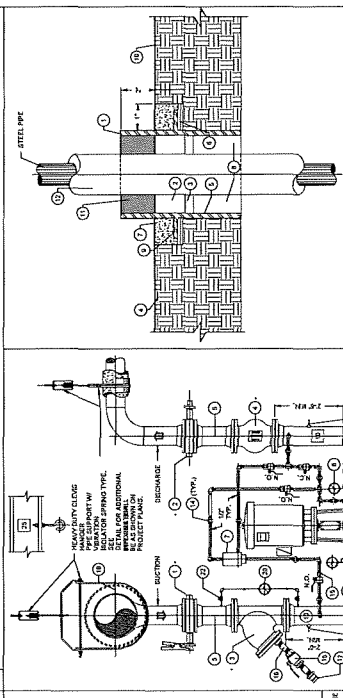
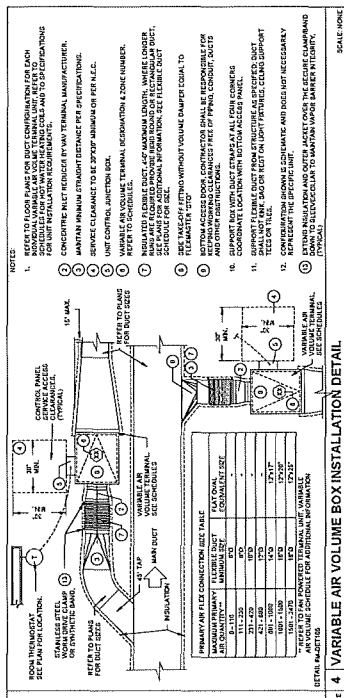
MECHANICAL

Item	Description	Unit	Quantity
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3	1000 200		
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6	1000 200		
7	1000 200		
8	1000 200		
9	1000 200		
10	1000 200		

CapCom Package 5 1801 Congress

1801 CONGRESS AVE, AUSTIN, TEXAS
DATE: 11/01/19
SHEET NAME: MECHANICAL DETAILS

PACKAGE NUMBER: 5C16
SHEET NUMBER: M4.1003



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CONSULTANT TEAMS

<p>Civil Engineering Cesco EAC</p> <p>Mechanical Engineering Knight-Hughes Group</p> <p>Low Voltage/Consulting Cescon</p> <p>Vertical Transportation Pascarella & Associates</p> <p>Structural Consulting Wills, Wiley, Gilman Associates, Inc.</p> <p>Envelope Consulting Tannerbee Group</p>	<p>Landscape Architecture Cesco & Associates</p> <p>MSP Engineering Support Wick Consulting Engineers Cescon</p> <p>Parking Consulting HMA Parking</p> <p>Code Consulting Janney Hughes</p> <p>Acoustical Consulting SLP Consulting</p> <p>Building Commissioning NVA</p>
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KEYPLAN



REVISIONS

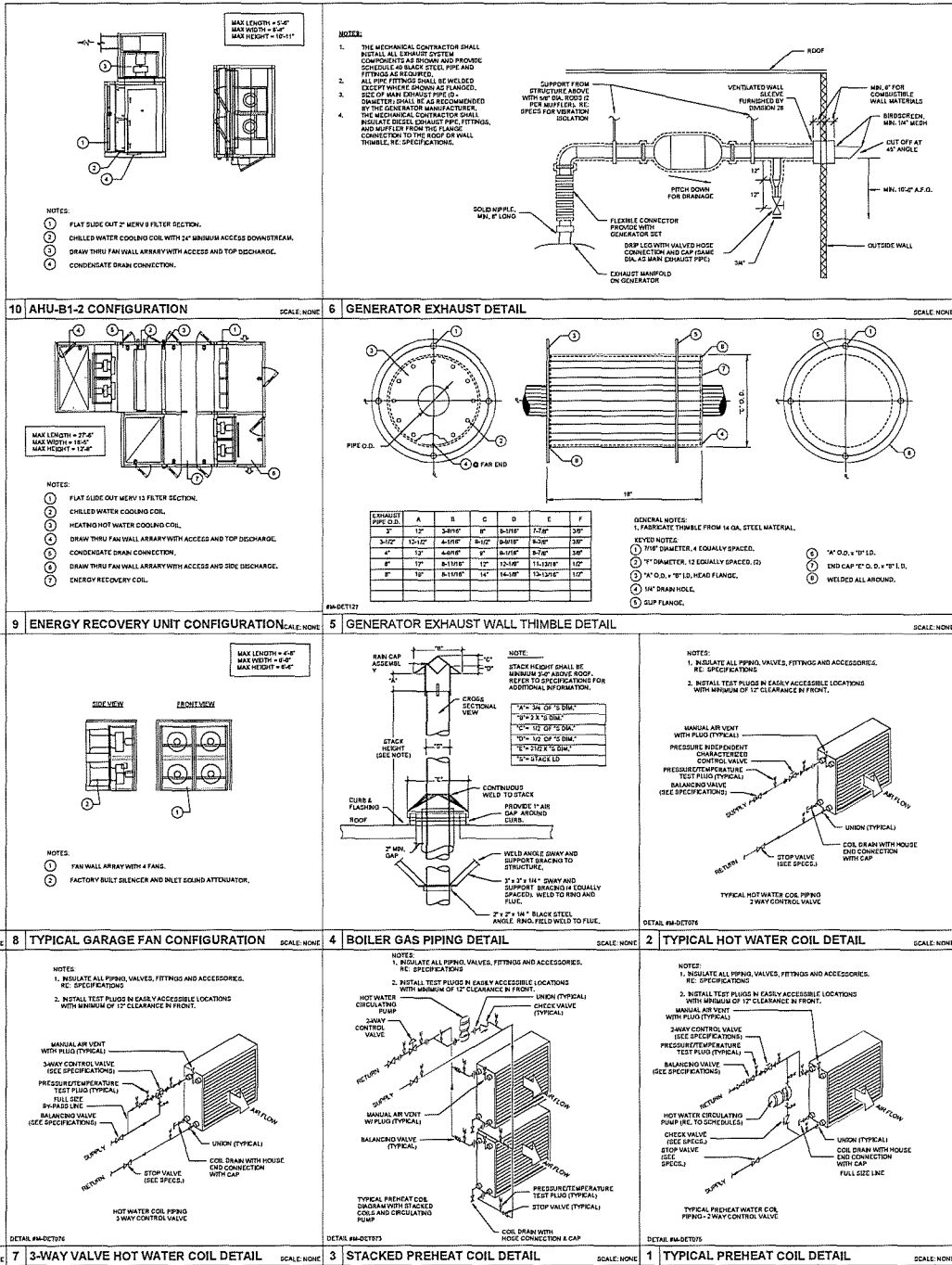
Number	Description	Date
1	Issued for Construction	01 NOV 2018
2	Issued for 100% CD	27 SEP 2019
3	Issued for 90% CD	12 JUL 2019
4	Issued for 85% CD	03 MAY 2019
5	CD PROCEEDING SET	05 APR 2019
6	CD PROCEEDING SET	06 FEB 2019
7	CD PROCEEDING SET	21 DEC 2018
8	CD PROCEEDING SET	10 DEC 2018

DESIGNED FOR CONSTRUCTION: 01 NOV 2018
TFC PROJECT NUMBER: 11-01-0023
KIRKSEY PROJECT NUMBER: 2017148

CapCom Package 5 1601 CONSTRUCTION

1601 CONGRESS AVE., AUSTIN, TEXAS
DATE: 11/01/19
SHEET NAME: MECHANICAL DETAILS

PACKAGE NUMBER: 5C16
SHEET NUMBER: M4.1004



1. PROVIDE WALL FAN ARRAY WITH THE SAME FAN SIZES.
2. PROVIDE 12" CARBON FILTER EQUALS TO CAMFIL CITYCARB.
3. VERTICAL UNIT WITH SIDE DISCHARGE.

* SEE PLAN FOR CONFIGURATION.
** EXTERNAL STATIC PRESSURE INCLUDES FILTER RESISTANCE.
NOTES:
1. PROVIDE SINGLE POINT ELECTRICAL CONNECTION AND INTEGRAL CONDENSATE PUMP.
2. PROVIDE WITH MERV 8 UNIT FILTERS AND FILTER RACK.
3. PROVIDE INTEGRAL CONDENSATE PUMP.

NOTES:

1. TWO PUMPS TO BE INSTALLED IN PARALLEL. ONE PUMP ACTIVE WITH ONE PUMP AS 100% REDUNDANT BACKUP. PROVIDE PUMP WITH CONCRETE INERTIA BASE, VIBRATION ISOLATION RAILS, DISCONNECT, VARIABLE FREQUENCY DRIVE (VFD), NECESSARY INTERFACE WITH BUILDING AUTOMATION SYSTEM. PUMPS SHALL BE PROVIDED WITH NECESSARY CONTROL FOR LEAD/LAG/FLOW/ROTATION OPERATION. REFER TO SPECIFICATIONS.

2. THREE PUMPS TO BE INSTALLED IN PARALLEL. TWO PUMPS ACTIVE WITH ONE PUMP AS 50% REDUNDANT BACKUP. PROVIDE PUMP WITH CONCRETE INERTIA BASE, VIBRATION ISOLATION RAILS, DISCONNECT, VARIABLE FREQUENCY DRIVE (VFD), AND NECESSARY INTERFACE WITH BUILDING AUTOMATION SYSTEM. PUMPS SHALL BE PROVIDED WITH NECESSARY CONTROL FOR LEAD/LAG/FLOW/ROTATION OPERATION. REFER TO SPECIFICATIONS.

NOTE: 1. PROVIDE SUBMITTALS ON ALL AIR DISTRIBUTION DEVICES TO BE FURNISHED
2. FOR 3-WAY, 3-WAY AND 1-WAY THROW PROVIDE OPTIONAL BLOW CLIPS

NOTES:

1. PROVIDE WALL FAN ARRAY WITH THE SAME FAN SIZES.
2. PROVIDE 12" CARBON FILTER EQUALS TO CAMFIL CITYCARB.
3. VERTICAL UNIT WITH SIDE DISCHARGE.

△ SEE PLAN FOR CONFIGURATION.
 ** EXTERNAL STATIC PRESSURE INCLUDES FILTER RESISTANCE.
 NOTES:
 1. PROVIDE SINGLE POINT ELECTRICAL CONNECTION AND INTEGRAL STARTER AND DISCONNECT.
 2. PROVIDE WITH MERV 8 UNIT FILTERS AND FILTER RACK.
 3. PROVIDE INTEGRAL CONDENSATE PUMP.

NOTES:

1. TWO PUMPS TO BE INSTALLED IN PARALLEL. ONE PUMP ACTIVE WITH ONE PUMP AS 100% REDUNDANT BACKUP. PROVIDE PUMP WITH CONCRETE INERTIA BASE, VIBRATION ISOLATION RAILS, DISCONNECT, VARIABLE FREQUENCY DRIVE AND NECESSARY INTERFACE WITH BUILDING AUTOMATION SYSTEM. PUMPS SHALL BE PROVIDED WITH NECESSARY CONTROL FOR LEAD/LAG/ALOVER ROTATION OPERATION. REFER TO SPECIFICATIONS.

2. THREE PUMPS TO BE INSTALLED IN PARALLEL. TWO PUMPS ACTIVE WITH ONE PUMP AS 50% REDUNDANT BACKUP. PROVIDE PUMP WITH CONCRETE INERTIA BASE, VIBRATION ISOLATION RAILS, DISCONNECT, VARIABLE FREQUENCY DRIVE (VFD) AND NECESSARY INTERFACE WITH BUILDING AUTOMATION SYSTEM. PUMPS SHALL BE PROVIDED WITH NECESSARY CONTROL FOR LEAD/LAG/ALOVER ROTATION OPERATION. REFER TO SPECIFICATIONS.

TFC Control No. 24-029-000

NOTE: 1. PROVIDE SUBMITTALS ON ALL AIR DISTRIBUTION DEVICES TO BE FURNISHED
2. FOR 3-WAY, 2-WAY AND 1-WAY THROW PROVIDE OPTIONAL BLOW CLIPS

REVISIONS

5016 M12.1001

5016 M12.1001

5016 M12.1001

SCHEDULE OF FACTORY-BUILT HEAT RECOVERY OUTSIDE AIR HANDLING UNITS																										
OUTSIDE AIR FAN DATA									EXHAUST/RELIEF AIR FAN DATA									COOLING COIL DATA								
DESIGNATION	LOCATION	SERVICE	TOTAL AIR VOLUME (CFM)	FAN TYPE	MAXIMUM FAN SPEED (R.P.M.)	MINIMUM FAN DIAMETER (IN.)	EXTERNAL STATIC PRESSURE INCLUDING FILTERS (IN. WG.)	INTERNAL STATIC PRESSURE (IN. WG.)	MAXIMUM FAN MOTOR H.P.	VOLTAGE/PHASE/RTZ	TOTAL AIR VOLUME (CFM)	FAN TYPE	MAXIMUM FAN SPEED (R.P.M.)	MINIMUM FAN DIAMETER (IN.)	EXTERNAL STATIC PRESSURE INCLUDING FILTERS (IN. WG.)	INTERNAL STATIC PRESSURE (IN. WG.)	MAXIMUM FAN MOTOR H.P.	VOLTAGE/PHASE/RTZ	TOTAL AIR VOLUME (CFM)	MAXIMUM COIL FACE VELOCITY (F.P.M.)	ENTERING AIR TEMPERATURE (°F - D.B./W.B.)	LEAVING AIR TEMPERATURE (°F - D.B.)	TOTAL SENSIBLE HEAT (BTU/Hr)	GRAND TOTAL HEAT (BTU/Hr)	ENTERING/LEAVING WATER TEMPERATURE (°F)	CHILLED WATER FLOW (G.P.M.)
ERU-R-1	LEVEL 13	OFFICE	40500 CFM	FANWALL					60	480/360	35000 CFM	FC					36	480/360	40500 CFM	500 FPM	100/75	50	2,330,300	3,341,300	45/62	363
ERV-B1-1	BASEMENT 1	CDC AREA	15000 CFM	FC					8	480/360	4000 CFM						(2) 2.3	480/360	10 CFM							

SCHEDULE OF FACTORY-BUILT HEAT RECOVERY OUTSIDE AIR HANDLING UNITS CONT.														
DESIGNATION	HOT WATER HEATING COIL DATA					HEAT RECOVERY COIL DATA								
	AIR VOLUME (CFM)	MAXIMUM COIL FACE VELOCITY (F.P.M.)	TOTAL HEAT (BTU/Hr)	ENTERING AIR TEMPERATURE (F - D.B.)	ENTERING WATER TEMPERATURE (F)	G.P.M.	MAXIMUM PRESSURE DROP (PT.)	MAXIMUM COIL FACE VELOCITY (F.P.M.)	ENTERING OUTSIDE AIR TEMPERATURE SUMMER (F - D.B./W.B.)	LEAVING OUTSIDE AIR TEMPERATURE SUMMER (F - D.B./W.B.)	LEAVING OUTSIDE AIR TEMPERATURE WINTER (F - D.B.)	ENTERING EXHAUST AIR TEMPERATURE (F - D.B./W.B.)	MANUFACTURER /SERIES BASIS FOR DESIGN	REMARKS/NOTES
ERU-R-1	40500 CFM	500	1336000	180	140	97	5	100/75	85.3/68.5	35.1	75.0/62.5	75.0/62.5	GAOINAR	
ERV-B1-1	15000 CFM	180	450000	140	140	97	5	100/75	85.3/68.5	35.1	75.0/62.5	75.0/62.5	GAOINAR	

- * SCHEDULED SENSIBLE HEAT DOES NOT INCLUDE MOTOR HEAT.
* EXTERNAL STATIC PRESSURE INCLUDES FILTER RESISTANCE, BUT DOES NOT INCLUDE ENTHALPY WHEEL.
*** SEE PLAN AND AIR HANDLER UNIT DETAIL FOR CONFIGURATION.
- NOTES:
1. DIRECT DRIVE FANS.
2. WITH MERV 8 AND MERV 13 PRE-FILTERS ON OUTSIDE AIR INTAKE.
3. WITH MERV 7 PRE-FILTER ON EXHAUST AIR INTAKE.
4. PROVIDE INTEGRAL DISCONNECT, 120V TRANSFORMER FOR CONTROLS & FACTORY WIRED CONVENIENCE, RECEPTACLE, AND SINGLE POINT CONNECTION.
5. PROVIDE AIR FLOW MONITORING STATIONS AT OUTSIDE AIR FAN AND EXHAUST AIR FAN INLETS FOR BUILDING PRESSURIZATION CONTROL.
6. PROVIDE VARIABLE SPEED DRIVES ON SUPPLY AND EXHAUST RELIEF FANS. REFER TO THE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS.

SCHEDULE OF WATER COOLED COMPUTER ROOM AIR CONDITIONING UNITS																	
FAN DATA						CHILLED WATER DATA						REHEAT COIL					
UNIT DESIGNATION	SERVICE	LOCATION	ROOM DESIGN TEMPERATURE (F.D.B.)	AIR VOLUME - CFM	FAN TYPE	FAN SPEED MAX. R.P.M.	EXT. STATIC PRESS. (IN. WG.)	MAX. FAN MOTOR H.P.	AIR VOLUME CFM	MAX. COIL FACE VELOCITY (FPM)	ENTERING AIR TEMPERATURE (F - D.B./W.B.)	LEAVING AIR TEMPERATURE (F - D.B.)	TOTAL SENSIBLE HEAT BTU/Hr	GRAND TOTAL HEAT BTU/Hr	FLOW RATE (GPM)	REHEAT CAPACITY KW	INDOOR MCHAMCOIP
CRAC-B1-1	CO-LO	BASEMENT 1	72	14000 CFM	PLUG	22	0.5	15	14000 CFM	500 FPM	72/60	54	286,800	310,700	45	102,400	480/360
CRAC-B1-2	CO-LO	BASEMENT 1	72	14000 CFM	PLUG	22	0.5	15	14000 CFM	500 FPM	72/60	54	286,800	310,700	45	102,400	480/360
CRAC-B1-3	CO-LO	BASEMENT 1	72	14000 CFM	PLUG	22	0.5	15	14000 CFM	500 FPM	72/60	54	286,800	310,700	45	102,400	480/360

- * SCHEDULED SENSIBLE HEAT DOES NOT INCLUDE MOTOR HEAT.
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE FILTER RESISTANCE.
*** SEE PLAN AND AIR HANDLER UNIT DETAIL FOR CONFIGURATION.
- NOTES:
1. WITH MERV 8 FILTER.
2. WITH SINGLE POINT ELECTRICAL CONNECTION.
3. WITH FACTORY MOUNTED DISCONNECT.
4. WITH PREMIUM EFFICIENCY MOTOR.
5. UNIT TO HAVE MINIMUM EFFICIENCY OF 10.0 EER.
6. UNIT TO HAVE LOW RETURN AND TOP DISCHARGE WITH SUPPLY PLENUM ON TOP OF UNIT.
7. PROVIDE INTEGRAL CONDENSATE PUMP.
8. PROVIDE AUXILIARY DRAIN PAN MOISTURE SENSOR INTEGRATED WITH THE BUILDING AUTOMATION SYSTEM.

SCHEDULE OF WATER COOLED COMPUTER ROOM AIR CONDITIONING UNITS CONT.

ELECTRICAL DATA						MISCELLANEOUS					
INDOOR MCHAMCOIP	FLOW RATE (GPM)	REHEAT CAPACITY KW	VOLTAGE/PHASE/HERTZ	INDOOR MCHAMCOIP	FLOW RATE (GPM)	REHEAT CAPACITY KW	VOLTAGE/PHASE/HERTZ	INDOOR MCHAMCOIP	FLOW RATE (GPM)	REHEAT CAPACITY KW	VOLTAGE/PHASE/HERTZ
480/360	103/125	30	480/360	480/360	103/125	30	480/360	480/360	103/125	30	480/360
480/360	103/125	30	480/360	480/360	103/125	30	480/360	480/360	103/125	30	480/360

SCHEDULE OF EXHAUST AND VENTILATION FANS														
CAPACITIES										MISC.				
DESIGNATION	LOCATION	SERVICE	FAN TYPE	DRIVE TYPE	AIR VOLUME (CFM)	EXTERNAL STATIC PRESSURE (IN. W.G.)	MAXIMUM TIP SPEED (F.P.M.)	BHP	MOTOR H.P.	VOLTAGE/PHASE/HERTZ	CONTROL SEQUENCE TYPE	ACCESSORIES*	MANUFACTURER/SERIES BASIS FOR DESIGN	REMARKS/NOTES
EF-1-1	LEVEL 1	TOILET EXHAUST	INLINE	DIRECT	1600 CFM	1	5,572	0.02	3/4	120/160			GREENHECK SQ	1
EF-1-2	LEVEL 1	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-3-1	LEVEL 2	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-11-1	LEVEL 11	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-12-1	LEVEL 12	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-13-10-1	LEVEL 3-10	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-104-03-1	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-104-03-2	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-104-03-3	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	18000 CFM	0.5	-	3.06	(4) 1.5	480/360			HUNTAIR	1, 2, 3, 5
EF-81-1	BASEMENT 1	GARAGE EXHAUST	FANWALL	DIRECT	18000 CFM	0.5	-	3.06	(4) 1.5	480/360			HUNTAIR	1, 2, 3, 5
EF-81-2	BASEMENT 1	TOILET EXHAUST	INLINE	DIRECT	650 CFM	1	6,422	0.45	3/4	120/160			GREENHECK SQ	1
EF-81-3	BASEMENT 1	TOILET EXHAUST	INLINE	DIRECT	1600 CFM	1	5,927	0.63	3/4	120/160			GREENHECK SQ	1
EF-81-4	BASEMENT 1	IDF 7/1R ROOM	INLINE	DIRECT	125 CFM	0.3	3,669	0.03	1/15	120/160			GREENHECK SQ	1, 6
EF-82-1	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-82-2	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-82-3	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	18000 CFM	0.5	-	3.06	(4) 1.5	480/360			HUNTAIR	1, 2, 3, 5
EF-82-4	BASEMENT 2	JANITORS CLOSET	INLINE	DIRECT	200 CFM	0.75	5,130	0.17	1/2	120/160			GREENHECK SQ	1
EF-85-1	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-85-2	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	24000 CFM	0.5	-	5.59	(4) 2.5	480/360			HUNTAIR	1, 2, 3, 5
EF-85-3	BASEMENT 2	GARAGE EXHAUST	FANWALL	DIRECT	18000 CFM	0.5	-	3.06	(4) 1.5	480/360			HUNTAIR	1, 2, 3, 5
KDF-R-1	LEVEL 13	GREASE EXHAUST	VENT SET	BELT	6750 CFM	2.5	9,406	5.41	7.5	480/360			GREENHECK USB	1, 4
SPF-R-1	LEVEL 13	STAIR PRESS.	INLINE	DIRECT	45000 CFM	2	15,009	26.85	30	480/360			GREENHECK QED	1.5
SPF-R-2	LEVEL 13	STAIR PRESS.	INLINE	DIRECT	45000 CFM	2	15,009	26.85	30	480/360			GREENHECK QED	1.5

- * BS-BROSCREEN; BD-BACKDRAFT DAMPER; MBD-MOTORIZED BACKDRAFT DAMPER; SC-SOUND ATTENUATING CURB; SH-INLET SCREEN; WH-WEATHERPROOF MOTOR HEAD; WC-WALL COLLAR; SFC-SOLID-STATE FAN SPEED CONTROL.
- NOTES:
1. FURNISHED WITH INTEGRAL FACTORY MOUNTED SINGLE-POINT, NON-FUSED DISCONNECT.
2. PROVIDE AN ARRAY OF 4 FANS IN THE FAN WALL. EACH FAN SIZE SHALL BE THE SAME AS THE AHU'S FANS.
3. PROVIDE FACTORY BUILT SILENCER AND INLET SOUND ATTENUATOR.
4. INTERLOCK FAN WITH HOOD OPERATION.
5. ON EMERGENCY POWER.
6. CONTROL WITH THERMOSTAT (SET @ 90F, FIELD ADJUSTABLE).



ARCHITECT OF RECORD

Kirksey
ARCHITECTURE

8000 FORTWORTH DRIVE
HOUSTON, TX 77054

MAINTENANCE ARCHITECT

Page 1: Southland Paper, Inc.
400 W. CECIL CHAVEZ STREET, SUITE 600
AUSTIN, TX 78701

CONSULTANT TEAM

Chief Engineering Davis EAC	Landscape Architecture Cabrera & Associates
Structural Engineering Design Impact Winkley	MEP Engineering Support Wink Consulting Engineers Greiner
Lean Building/Constructability Pascua	Parking Consulting H&H Parking
Medical Transportation Development & Associates	Code Consulting Jensen & Hughes
Envelope Consulting Wink, Leary, Gilmer Associates, Inc.	Acoustical Consulting GRT Consulting
Envelope Commissioning Turnward/SES Group	Building Commissioning H&H



KEY PLAN



REVISIONS

Number	Description	Date
1	Issued for Construction	10 NOV 2016
2	Revised for 5610 CG	27 SEP 2016
3	Revised for 5610 CG	12 JUL 2016
4	Revised for 5610 CG	26 MAY 2016
5	CD PROJECTIONS SET	16 APR 2016
6	CD PROJECTIONS SET	25 FEB 2016
7	Let's GO Progress Set	25 DEC 2015
8	ISSUED SET	23 OCT 2015

Number	Description	Date
1	Revision Schedule	

ISSUED FOR CONSTRUCTION 01 NOV 2016
PROJECT NUMBER: 17017-0020
KIRKSEY PROJECT NUMBER: 2017148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

11/01/19

SHEET NAME

MECHANICAL
SCHEDULES

PACKAGE NUMBER SHEET NUMBER

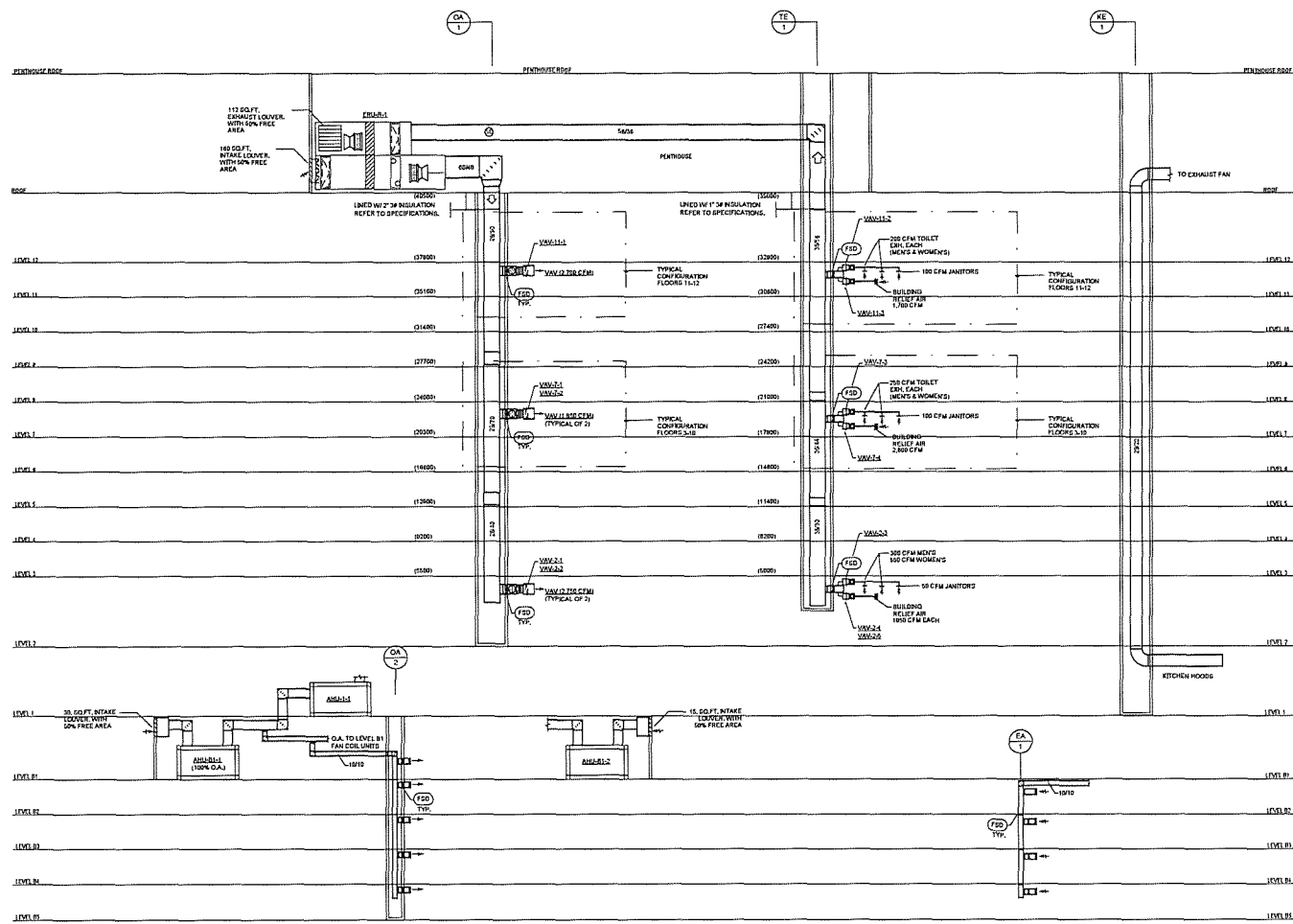
5C16 M12.1002

FAN-POWERED TERMINAL UNIT - FLOOR ALLOCATION TABLE																
DESIGNATION	LOCATION	SERVICE	FAN DATA					PRIMARY AIR VALVE DATA			HEATING COIL DATA					
			MAXIMUM COOLING CFM	MINIMUM COOLING CFM	HEATING CFM	ESP AT MAXIMUM CFM (IN. WG.)	FAN H.P.	MAXIMUM PRIMARY CFM	MINIMUM PRIMARY CFM	AIR VALVE SIZE (IN.)	HEATING CAPACITY (BTU/H)	ENTERING AIR TEMPERATURE (F + D.B.)	LEAVING AIR TEMPERATURE (F + D.B.)	HW FLOW (GPM)	VOLTAGE/PHAS	REMARKS/NOTES
RPTU-B1-01	BASEMENT 1		860 CFM	870 CFM	860 CFM	0.3	1/2	860 CFM	180 CFM	10	20000	65	65.7	1	277V/3Ø	
RPTU-B1-02	BASEMENT 1		1090 CFM	820 CFM	1060 CFM	0.3	3/4	1060 CFM	270 CFM	12	24000	65	65.3	1.2	277V/3Ø	
RPTU-B1-03	BASEMENT 1		1020 CFM	760 CFM	1020 CFM	0.3	3/4	1020 CFM	200 CFM	12	22000	65	64.9	1.1	277V/3Ø	
RPTU-B1-04	BASEMENT 1		1350 CFM	1010 CFM	1350 CFM	0.3	3/4	1350 CFM	270 CFM	14	14000	65	74.6	0.7	277V/3Ø	
RPTU-B1-05	LEVEL 1		1350 CFM	860 CFM	1350 CFM	0.3	3/4	1350 CFM	240 CFM	12	20000	65	65.0	1.3	277V/3Ø	
RPTU-B1-06	LEVEL 1		1160 CFM	870 CFM	1160 CFM	0.3	3/4	1160 CFM	230 CFM	12	20000	65	65.7	1.3	277V/3Ø	
RPTU-B1-07	LEVEL 1		1050 CFM	760 CFM	1050 CFM	0.3	3/4	1050 CFM	210 CFM	12	12000	65	75.5	0.6	277V/3Ø	
RPTU-B1-08	LEVEL 1		1550 CFM	1160 CFM	1550 CFM	0.3	3/4	1550 CFM	320 CFM	14	34000	65	64.7	1.7	277V/3Ø	
RPTU-B1-09	LEVEL 1		1020 CFM	770 CFM	1020 CFM	0.3	3/4	1020 CFM	210 CFM	12	22000	65	64.7	1.1	277V/3Ø	
RPTU-B1-10	LEVEL 1		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	18000	65	75.4	0.9	277V/3Ø	
RPTU-B1-11	LEVEL 1		1030 CFM	770 CFM	1030 CFM	0.3	3/4	1030 CFM	210 CFM	12	22000	65	64.7	1.1	277V/3Ø	
RPTU-B1-12	LEVEL 1		1200 CFM	900 CFM	1200 CFM	0.3	3/4	1200 CFM	240 CFM	12	20000	65	64.7	1.3	277V/3Ø	
RPTU-B1-13	LEVEL 1		650 CFM	460 CFM	650 CFM	0.3	1/2	650 CFM	130 CFM	10	6000	65	76.3	0.4	277V/3Ø	
RPTU-B1-14	LEVEL 1		450 CFM	340 CFM	450 CFM	0.3	3/4	450 CFM	90 CFM	6	10000	65	85.5	0.5	277V/3Ø	
RPTU-B1-15	LEVEL 1		1350 CFM	1010 CFM	1350 CFM	0.3	3/4	1350 CFM	270 CFM	14	14000	65	74.5	0.7	277V/3Ø	
RPTU-B1-16	LEVEL 1		1350 CFM	1010 CFM	1350 CFM	0.3	3/4	1350 CFM	270 CFM	14	20000	65	65.5	1.5	277V/3Ø	
RPTU-B1-17	LEVEL 1		860 CFM	740 CFM	860 CFM	0.3	3/4	860 CFM	200 CFM	12	22000	65	65.7	1.1	277V/3Ø	
RPTU-B1-18	LEVEL 1		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-19	LEVEL 1		960 CFM	740 CFM	960 CFM	0.3	3/4	960 CFM	200 CFM	12	22000	65	65.7	1.1	277V/3Ø	
RPTU-B1-20	LEVEL 1		1530 CFM	1150 CFM	1530 CFM	0.3	3/4	1530 CFM	310 CFM	14	24000	65	65.5	1.7	277V/3Ø	
RPTU-B1-21	LEVEL 1		1530 CFM	1150 CFM	1530 CFM	0.3	3/4	1530 CFM	310 CFM	14	14000	65	75.4	0.9	277V/3Ø	
RPTU-B1-22	LEVEL 1		1650 CFM	1240 CFM	1650 CFM	0.3	3/4	1650 CFM	330 CFM	14	18000	65	75.4	0.9	277V/3Ø	
RPTU-B1-23	LEVEL 1		1800 CFM	1350 CFM	1800 CFM	0.3	3/4	1800 CFM	360 CFM	14	40000	65	65.5	2	277V/3Ø	
RPTU-B1-24	LEVEL 1		1800 CFM	1350 CFM	1800 CFM	0.3	3/4	1800 CFM	360 CFM	14	40000	65	65.5	2	277V/3Ø	
RPTU-B1-25	LEVEL 2		1400 CFM	920 CFM	1400 CFM	0.3	3/4	1400 CFM	260 CFM	14	30000	65	64.7	1.5	277V/3Ø	
RPTU-B1-26	LEVEL 2		1250 CFM	1050 CFM	1250 CFM	0.3	3/4	1250 CFM	260 CFM	14	27000	65	65.1	1.4	277V/3Ø	
RPTU-B1-27	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-28	LEVEL 2		900 CFM	660 CFM	900 CFM	0.3	1/2	900 CFM	180 CFM	10	10000	65	75.7	0.5	277V/3Ø	
RPTU-B1-29	LEVEL 2		370 CFM	280 CFM	370 CFM	0.3	1/2	370 CFM	70 CFM	6	6000	65	84.9	0.4	277V/3Ø	
RPTU-B1-30	LEVEL 2		1400 CFM	1050 CFM	1400 CFM	0.3	3/4	1400 CFM	280 CFM	14	30000	65	64.7	1.5	277V/3Ø	
RPTU-B1-31	LEVEL 2		1400 CFM	1050 CFM	1400 CFM	0.3	3/4	1400 CFM	280 CFM	14	16000	65	74.8	0.8	277V/3Ø	
RPTU-B1-32	LEVEL 2		1400 CFM	1050 CFM	1400 CFM	0.3	3/4	1400 CFM	280 CFM	14	30000	65	64.7	1.5	277V/3Ø	
RPTU-B1-33	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-34	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-35	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-36	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-37	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-38	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-39	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-40	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-41	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-42	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-43	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-44	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-45	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-46	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-47	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-48	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-49	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-50	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-51	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-52	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-53	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-54	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-55	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-56	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-57	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-58	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-59	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-60	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-61	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-62	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-63	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-64	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-65	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-66	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-67	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-68	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-69	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-70	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-71	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-72	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-73	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-74	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4	1600 CFM	320 CFM	14	36000	65	65.7	1.8	277V/3Ø	
RPTU-B1-75	LEVEL 2		1600 CFM	1200 CFM	1600 CFM	0.3	3/4									



- 1 45° MITERED INTAKE OPENING WITH BIRD SCREEN.
- 2 INLET SCREEN, BY FAN MANUFACTURER.
- 3 2 HR. FIRE RATED ENCLOSURE BY GENERAL CONTRACTOR. R.C. ARCH DAMPS FOR ADDITIONAL INFORMATION.
- 4 DIFFERENTIAL PRESSURE SENSORS (TYPICAL)
- 5 THIS PARTITION IS NOT FIRE RATED.
- 6 FIRE RATED DAMPER AND BACKDRAFT DAMPER ASSEMBLY, R.C. DETAILS.

Exhibit D - Fair Building CDS



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CONSULTANT TEAMS

<ul style="list-style-type: none"> Civil Engineering Gues EAC Structural Engineering Daugherty/Whitney Low Voltage/Security Dietrich Medical Transportation Transportation & Associates Envelope Consulting Wm. J. Kelly, Elmer Associates, Inc. Envelope Consulting Turner/FEL Group 	<ul style="list-style-type: none"> Landscape Architecture Coleman & Associates MVP Engineering Support Wyle Consulting Engineers Crescent Parking Consulting HWA Parking Code Consulting James/Hughes Acoustical Consulting SLR Consulting Building Commissioning HWA
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KEYPLAN



REVISIONS

Number	Description	Date
1	Issued for Construction	01 NOV 2018
2	Issued for UPRN CD	27 SEP 2019
3	Issued for UPRN CD	12 JUL 2019
4	Issued for UPRN CD	03 MAY 2019
5	2-D PROJECT COLLECT	16 APR 2019
6	2-D PROJECT COLLECT	04 JUL 2019
7	Early UPRN Progress Set	21 DEC 2018
8	UPRN CD	26 DEC 2018

Number	Description	Date
1	Revision Schedule	

ISSUED FOR CONSTRUCTION 01 NOV 2018
TFC PROJECT NUMBER 17-0114025
KIRKSEY PROJECT NUMBER 2017148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE, AUSTIN, TEXAS

DATE

11/01/19

SHEET NAME

MECHANICAL RISERS

PACKAGE NUMBER SHEET NUMBER

5C16 M13.1002

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CONSULTANT TEAMS

<ul style="list-style-type: none"> Cost Engineering Owner's Cost Structural Engineering Design/Humanity Low Voltage/Security Vertical Transportation Parametrix & Associates Envelope Consulting WMA, Jansz, Gilmer Architects, Inc. Envelope Consulting Tutor2U BCS Group 	<ul style="list-style-type: none"> Landscape Architecture Colson & Associates MEP Engineering Support Orbis Consulting Engineers Electronics Parking Consulting H&M Paving Code Consulting James Hughes Acoustical Consulting S&M Consulting Building Commissioning URS
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KEY PLAN



REVISIONS

Number	Description	Date
1	Issued for Construction	01 NOV 2019
2	Issued for 10% CD	17 JUL 2019
3	Issued for 30% CD	12 JUL 2019
4	Issued for 50% CD	09 MAY 2019
5	CD PROGRESS DET	16 APR 2019
6	CD PROGRESS DET	06 FEB 2019
7	CD PROGRESS DET	21 DEC 2018
8	CD PROGRESS DET	28 OCT 2018

Number	Description	Date
1	Issued for Construction	01 NOV 2019
2	Issued for 10% CD	17 JUL 2019
3	Issued for 30% CD	12 JUL 2019
4	Issued for 50% CD	09 MAY 2019
5	CD PROGRESS DET	16 APR 2019
6	CD PROGRESS DET	06 FEB 2019
7	CD PROGRESS DET	21 DEC 2018
8	CD PROGRESS DET	28 OCT 2018

ISSUED FOR CONSTRUCTION: 01 NOV 2019
TFC PROJECT NUMBER: 17-017-0029
KIRKSEY PROJECT NUMBER: 2307146

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

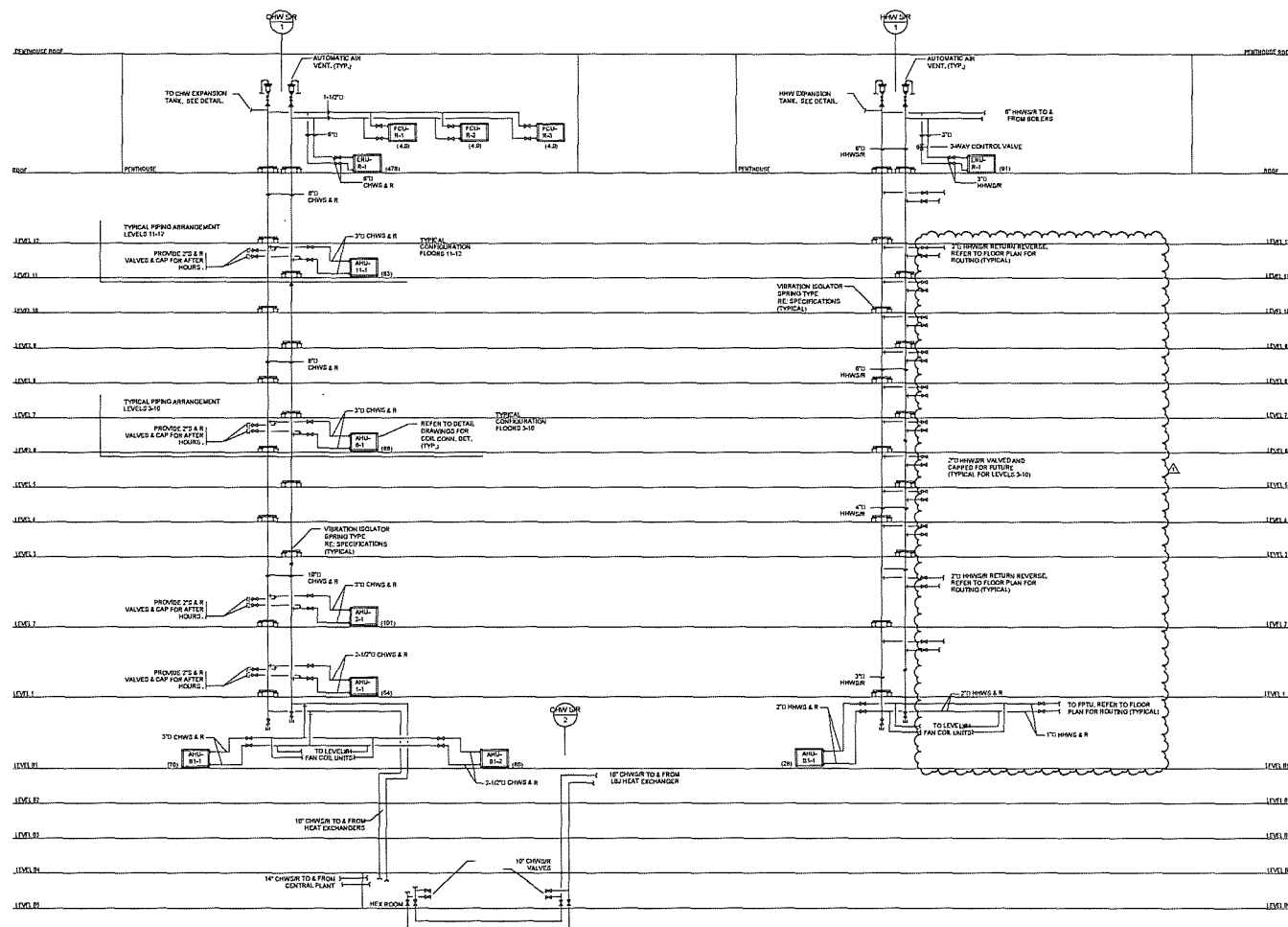
11/01/19

SHEET NAME

MECHANICAL RISERS

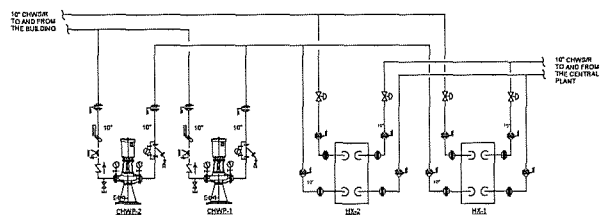
PACKAGE NUMBER SHEET NUMBER

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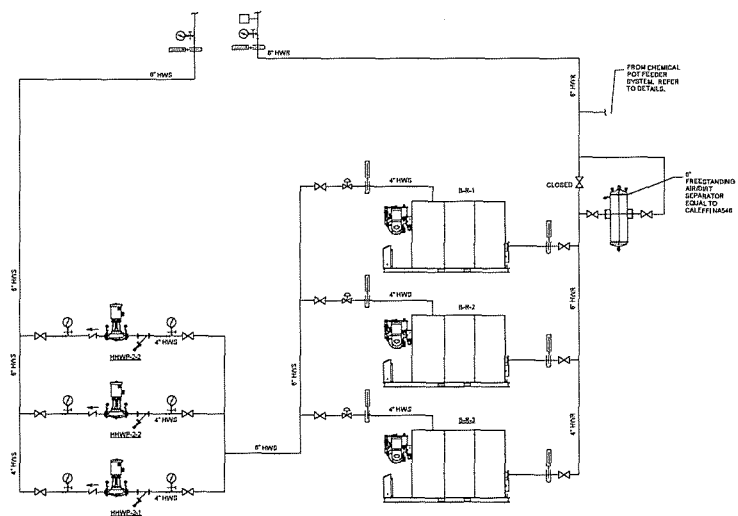


02 CHILLED WATER RISER DIAGRAM
SCALE: NOT TO SCALE

01 HEATING HOT WATER RISER DIAGRAM
SCALE: NOT TO SCALE



02 HEAT EXCHANGER SCHEMATIC
SCALE: NONE



01 HEATING HOT WATER SCHEMATIC
SCALE: NONE

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AUSTIN, TX 78701

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Civil Engineering Garcia LLC	Landscape Architecture Cabrera & Associates
Structural Engineering Dwyer Design/Build	MCP Engineering Support Vipin Consulting Engineers Everach
Low Voltage/Security Datacom	Parking Consulting HWA Parking
Vertical Transportation Producehouse & Associates	Cable Consulting Genset/Engineer
Envelope Consulting WHL, Loney, Clutter Associates, Inc.	Aerothermal Consulting VLR Consulting
Envelope Consulting Tutor2U/EEC Group	Building Consulting HWS



KEYPLAN



REVISIONS

Number	Description	Date
1	Issued for Construction	01 NOV 2019
2	Revised for 100% CIP	27 DEC 2019
3	Revised for 90% CIP	12 JUL 2019
4	Revised for 80% CIP	03 MAY 2019
5	CIP PROGRESS SET	15 APR 2019
6	CIP PROGRESS SET	04 FEB 2019
7	Early CIP Progress Set	21 DEC 2018
8	Issue 100	28 DEC 2018

Number	Description	Date
1	Revision Schedule	

ISSUED FOR CONSTRUCTION 01 NOV 2019
TFC PROJECT NUMBER: 120478405
KIRKSEY PROJECT NUMBER: 2012148

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE

11/01/19

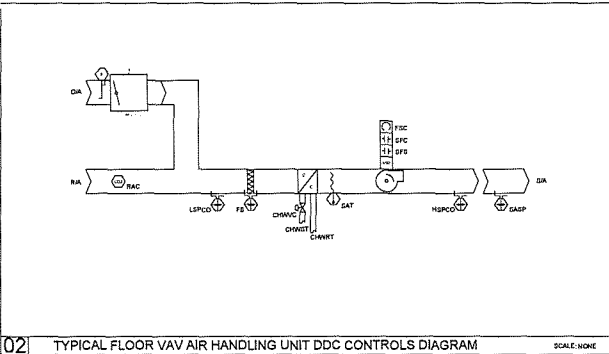
SHEET NAME

MECHANICAL RISERS

PACKAGE NUMBER SHEET NUMBER

5C16 M13.1004

INPUT/OUTPUT SUMMARY									
SYSTEM: VAV AIR HANDLING UNIT		HARDWARE		SOFTWARE		PROGRAMS			
NO	DESCRIPTION	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG
1	100% OUTSIDE AIR HANDLING UNIT								
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- DRAW-THROUGH VARIABLE VOLUME AIR HANDLING UNITS**
- A. **General:** Each of these units shall consist of a variable volume draw-through type air handling unit, chilled water cooling coil, variable frequency drive, pre-filter, final filter (where scheduled), fan, and related control system.
- B. **Start/Stop Control:** The unit fan shall be program started and stopped from an ASC or stand-alone DDC panel when its HOA switch is in the "Auto" position. In the "Hand" position, the HOA switch shall allow local manual starting. After the start signal is given, the unit fan shall delay starting for 30 seconds (adjustable) to allow interlocked fan powered terminal units to start first.
- C. **Cooling Coil Control:** An extended element averaging temperature sensor located in the cooling coil air discharge shall provide an input to an ASC or stand-alone DDC panel which, shall through a PI control algorithm, output a signal to modulate an electrically actuated two-way control valve on the cooling coil as required to maintain a 55°F (adjustable) discharge air temperature. The control valve shall close when the unit fan is off, and shall fail open upon loss of control signal. The averaging element shall be located in the coil discharge as recommended by the air handling unit manufacturer. The temperature transmitter shall be calibrated from the air temperature sensing point in the unit recommended by the air handling unit manufacturer. The averaging element shall be installed in a zig-zag fashion across the entire face of the cooling coil discharge and shall be mounted on insulated clips at each change in direction. The distance between changes in direction (and clips) shall not exceed two feet measured along the length of the averaging element. Temperature transmitter shall be calibrated to maintain no more than a ±1°F variation in leaving air temperature from set point from full flow to minimum flow when measured at the point indicated above.
- D. **Discharge Duct Pressure Control:** A duct mounted static pressure transducer located two thirds the distance down the longest primary duct system served by the air handling unit shall provide an input signal to an ASC or stand-alone DDC panel which, shall through a PI control algorithm, output a signal to a variable frequency drive (VFD) to modulate the fan motor speed as required to maintain duct static pressure set point (adjustable). The static pressure setpoint shall be based on the balanced static pressure (determined by TAB contractor) and minimum of 0.1 in. w.g. (set) based on the critical terminal unit damper position (critical damper is defined as the most open damper of all terminal units on system). All terminal unit damper positions on the system shall be surveyed at minimum intervals of 15 minutes and new critical zones shall be enabled if applicable during the survey. The static pressure shall be reset up to maintain the critical unit damper position at 85% open. The static pressure shall be reset down when all dampers are between 75%-80% open and terminate reset when at least one damper is 85% open. When all dampers are between a deadband of 75%-80%, no resetting shall take place. A separate static pressure switch setting air handling unit discharge pressure shall stop the air handling unit whenever its limit set point is exceeded. Set point shall be set below the ductwork pressure class designation to protect the ductwork system. Unit fan shall always start unloaded and terminate static pressure gradually to set point.
- E. **VFD Drive Status:** Monitor a contact closure in the VFD to indicate VFD drive failure to the BCAS.
- F. **VFD Bypass Interlock:** Remote monitor available points from VSD through BCAS per points list in IO diagrams.
- G. **Fan Status:** Fan status shall be indicated to the BCAS by a differential pressure air flow switch or current sensitive relay.
- H. **Fiber Monitor:** Provide an electric differential air pressure switch the fiber bank. Switch shall provide an output signal to the BCAS to indicate the fiber bank is in trouble.
- I. **DEMAND CONTROL VENTILATION SYSTEM (DCVS):** Refer to Sheet M13.2003D for CO2-based demand control ventilation system description.

INPUT/OUTPUT SUMMARY									
SYSTEM: OUTSIDE AIR HANDLING UNIT (WITH HEAT)		HARDWARE				SOFTWARE			
NO	SUMMARY TABLE NO	OUTPUT	ANALOG	INPUT	ANALOG	DIGITAL	ANALOG	DIGITAL	PROGRAMS
POINTS POINT DESCRIPTION									
		100% OUTSIDE AIR HANDLING UNIT							
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VARIABLE VOLUME OUTSIDE AIR SUPPLY AIR TERMINAL UNIT (VAV)

A. General Each of three units consists of a variable volume unit (VAV), primary air damper, inlet air sensor, and shall be provided with related control systems.

B. Related Equipment The outside air supply shall only be permitted outside air supplied as per COV-based Demand Controlled Ventilation (DCV) system.

C. Pressure Independent Controller A flow-measuring differential device in the primary air inlet shall through a pressure transducer and the BAS read the control loop for terminal unit control.

D. Related Equipment System shall employ a three-wire control algorithm to announce alert.

E. Related Equipment

1. At all times dampers shall maintain to maintain flow constant.
2. The air inlet damper shall close when the outside air is exhausted or fan is off.
3. The air inlet damper shall close when the main air handling unit is in pressure control or the unit for which it serves air.

F. Commissioning The unit shall be capable of transmitting the following information and receiving instructions to change setpoints in standard binary coded decimal format (BCD):

1. Minimum airflow (CFM)
2. Maximum airflow (CFM)
3. Request Air Flow (CFM)
4. Outside Air Flow (CFM)

VARIABLE VOLUME EXHAUST AIR TERMINAL UNIT (VAV)

A. General Each of three units consists of a variable volume unit (VAV), air inlet damper, inlet air sensor, and shall be provided with related control systems.

B. Related Equipment The exhaust air flow setpoint shall be constant, per scheduled exhaust flow as required per plan.

C. Pressure Independent Controller A flow-measuring differential device in the primary air inlet shall through a pressure transducer and the BAS read the control loop for terminal unit control.

D. Related Equipment System shall employ a three-wire control algorithm to announce alert.

E. Related Equipment

1. At all times dampers shall maintain to maintain flow constant.
2. The air inlet damper shall close when the outside air is exhausted or fan is off.
3. The air inlet damper shall close when the main air handling unit is in pressure control or the unit for which it serves air.

F. Commissioning The unit shall be capable of transmitting the following information and receiving instructions to change setpoints in standard binary coded decimal format (BCD):

1. Minimum airflow (CFM)
2. Exhaust Air Flow (CFM)
3. Exhaust Air Flow (CFM)

VARIABLE VOLUME RETURN AIR TERMINAL UNIT (VAV)

A. General Each of three units consists of a variable volume unit (VAV), air inlet damper, inlet air sensor, and shall be provided with related control systems.

B. Related Equipment The return air setpoint shall be set equal to

1. CO2 Air Flow (measured) or CO2 Air Flow (measured) - Pressure Preference Offset (deductable).

C. Pressure Independent Controller A flow-measuring differential device in the primary air inlet shall through a pressure transducer and the BAS read the control loop for terminal unit control.

D. Related Equipment System shall employ a three-wire control algorithm to announce alert.

E. Related Equipment

1. At all times dampers shall maintain to maintain flow constant.
2. The air inlet damper shall close when the outside air is exhausted or fan is off.
3. The air inlet damper shall close when the main air handling unit is in pressure control or the unit for which it serves air.

F. Commissioning The unit shall be capable of transmitting the following information and receiving instructions to change setpoints in standard binary coded decimal format (BCD):

1. Minimum airflow (CFM)
2. Maximum airflow (CFM)
3. Request Air Flow (CFM)
4. Return Air Flow (CFM)

CO-BASED DEMAND CONTROL VENTILATION SYSTEM (DCV)

A. General The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

B. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

C. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

D. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

E. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

F. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

G. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

H. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

I. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

J. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

K. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

L. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

M. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

N. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

O. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

P. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

Q. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

R. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

S. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

T. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

U. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

V. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

W. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

X. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

Y. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

Z. Related Equipment The system shall be designed to maintain indoor air quality and reduce energy recovery unit, outside air volume, outside air flow, exhaust of variable volume units, and return air volume, terminal units, and related control system.

Temperature Averaging: When a spacecoils is served by two or more FRTU, their thermostats shall be visually interlocked through BAC and averaged, so that they operate equivalent to a single thermostat.

02 HEATING HOT WATER SYSTEM DDC CONTROLS DIAGRAM

SCALE: NONE

PUMP8

Start/Stop Controls: The unit shall be pump started and stopped from an ASC or standalone DDC panel when the HDA switch is in the "AUTO" position. In the "MAN" position, the HDA switch shall allow manual starting.

Flow Status: Pump status shall be indicated to the BAS by a differential pressure water flow switch.

Strainer: A switch in the differential pressure gauge at each pump strainer shall provide a signal to the BAS to indicate that the strainer requires service.

The diagram illustrates a chilled water system with two chillers, MS-1 and MS-2, and two cooling towers, CWT-1 and CWT-2. The system includes a central pump station (PS) and a differential pressure sensor (DPS). The flow is as follows: Chilled water from the plant enters the system, passes through a control valve (CV) and a pump (P) to the chillers. The chillers then supply water to the cooling towers. The cooling towers are connected to the central pump station, which then distributes the water to the building. The system is controlled by a DDC system, with sensors for pressure (PS), flow (F), and temperature (T) at various points. The diagram also shows the connection to the plant and the building, with labels for 'CHILLED WATER TO BUILDING' and 'CHILLED WATER FROM BUILDING'.

PUMPS

A. Pressure Controls The unit shall be program started and stopped from an APC or stand alone DDC panel when its HGA switch is in the "Auto" position. In the "Manual" position, the HGA switch shall allow manual starting.

B. Pump Status Pump status shall be indicated to the SCAS by differential pressure water flow switch.

C. Alarms A switch in the differential pressure gauge at each pump motor shall provide a signal to the SCAS to indicate that the motor requires service.

FLOW METERS

A. Monitor flowmeter signal, supply and return water temperatures, and calculate GPM and BTUH.

B. Provide a display module adjacent to the meter with output in GPM and BTUH.

C. Provide for following systems:

1. Primary CHW/CRW from plant to 1001 Campus
2. Building CHW/CRW to 1001 Campus
3. Primary CHW/CRW from plant to LBJ Building
4. Building CHW/CRW to LBJ Building
5. Building H/W/CRW to 1001 Campus

LEAK DETECTION

A. Provide interface with leak detection cable system provided by Detcon 22.

B. Leak detector alarm shall notify operators through SCAS.

C. Operator shall be able to enable or disable all autonomous features that will disable secondary pumps serving LBJ Building upon detection of water from cable system.

D. Refer to plan for location of leak detection system designed.

REVISIONS

CapCom Package 5 1601 Congress

PACKAGE NUMBER SHEET NUMBER

5C16 M13.2004

Exhibit 1. 1992 Dividend Payout

Diagram illustrating the SPLIT-DX AND PACKAGED UNIT DDC CONTROLS DIAGRAM. The diagram shows a BACKNET INTERFACE connected to a PACKAGED HVAC UNIT. A signal line labeled 'B' and 'BICAS' connects the BACKNET INTERFACE to a dashed box labeled 'PACKAGED SYSTEM 23'. Inside this box, the signal line connects to the INDOOR UNIT, which is connected to the OUTDOOR UNIT. A sensor symbol is shown on the line between the indoor and outdoor units. A signal line labeled 'B' and 'BICAS' also connects the OUTDOOR UNIT to a sensor symbol.

- A. HVAC equipment shall be started and stopped by local controls provided with equipment and installed by mechanical contractor.
- B. Local controller shall include thermostat and 7-Day Time-of-Day programming (where specified).
- C. Division 25 contractor to provide space temperature sensor in room to alarm the BACS if space temp is above 55°F (adjustable).

Exhibit C • Part Budgetary CDO

The diagram illustrates the DDC controls for a Computer Room Air Handling Unit (CRAHU). It shows a horizontal duct with a filter on the left, a fan in the center, and a humidifier on the right. A 'SOFTWARE INTERFACE' box is connected to the fan and humidifier. A 'ST' (Status) signal is connected to the fan. A 'CHWIC' (Chilled Water Inlet Control) signal is connected to the humidifier. The duct is labeled 'RA' on the left and 'SA' on the right. The fan is labeled 'FAN' and the humidifier is labeled 'HUMIDIFIER'.

A. Demand: Each of the three shall consist of a constant voltage or on-off flow, normally drawn through fan, pre-filter, and/or direct water-cooling coil, electric resistance reheat coil with SCR control, auxiliary DX-cooling coil, automatic pump system generating humidifier and self-contained, factory mounted microprocessor controls.

B. Integral Controls: CRAC shall be furnished with integral controls and local thermostat and humidistat per unit. Controls shall cycle auxiliary DX cooling coil and outdoor air-sourced conditioning unit on routine basis, at least weekly.

C. Remote/CRAC Controls: Units shall be program accessible through an ASC or standalone DXC panel.

D. Alarms: Monitor common alarm output and generate an alarm at the BACS control when appropriate.



REVISIONS

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
11/01/19

SHEET NAME
**MECHANICAL
CONTROL DIAGRAMS**

PACKAGE NUMBER SHEET NUMBER

5C16 M13.2007

(REFER TO ELECTRICAL PLANS FOR QUANTITY AND LOCATIONS)

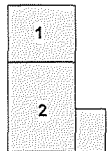
FIRE PUMPS
Monitor pump status from a relay contact and alarm when pump is operating.

PACKAGED DOMESTIC WATER PUMP SYSTEM
Monitor a common alarm output relay contact from the pump system control panel.
Monitor contacts in the pump system control panel to indicate run status of each pump.
Monitor a contact in the pump system control panel to indicate low-system pressure.

SUMP PUMPS AND SEWAGE EJECTORS
Monitor a relay contact in the pump controller to indicate high water alarm.
Refer to Flamingo drawings to confirm all sump and sewage ejector pump locations.



KEYPLAN



REVISIONS

1	Issued for Consultation	01 NOV 2019
2	Issued for 100% CD	27 SEP 2019
Number	Description	Date
Revision Schedule		

ISSUED FOR CONSTRUCTION:	01 NOV 2019
TFC PROJECT NUMBER:	17-017-0020
KIRKSEY PROJECT NUMBER:	2017140

CapCom Package 5 1601 Congress

1601 CONGRESS AVE., AUSTIN, TEXAS

DATE
11/01/19

MECHANICAL
CONTROL DIAGRAMS

PACKAGE NUMBER SHEET NUMBER

5C16 M13.2008

Exhibit D

Professional Services Schedule

TFC Contract No. 21-020-000

Engineered Air Balance Company, Inc.

Professional Services Schedule

Phase Or Deliverable	Duration (number of days)
Contract Execution	To be determined
Notice to Proceed	
Review for Balanceability	3
Field Document Preparation	7
Construction Coordination Meetings	5
Periodic Inspections	4
Witness Duct Pressure Testing	4
Smoke/Fire Damper Testing	10
Testing, Adjusting and Balancing Services	54
Control Verification	12
Support of Commissioning Process	7
Allowance	To be determined
Final Report Preparation	10
Warranty Services	To be determined

Exhibit E

List of Project Manager and Subcontractors

TFC Contract No. 21-020-000
Project No. 17-017-8020

Engineered Air Balance Company,
Inc.

**LIST OF TAB PROJECT MANAGER
AND
SUBCONTRACTORS**

A. AE		
Project Manager:		Engineered Air Balance Co., Inc. Daryl Norris 12961 Park Central, Suite 1390, San Antonio, Texas 78216 (210) 389-4542 dnorris@eabcoinc.com
Billing		Engineered Air Balance Co., Inc. Becky Taylor 604 Spring Hill Dr., Ste 100, Spring, Texas 77386 (281) 873-7084 btaylor@eabcoinc.com
Project Leader		Engineered Air Balance Co., Inc. Chris Chandler 12961 Park Central, Suite 1390, San Antonio, Texas 78216 (361) 354-0959 cchandler@eabcoinc.com

Exhibit F

TAB's Proposal dated September 18, 2020



San Antonio
 12961 Park Central, Suite 1390
 San Antonio, Texas 78216
 Tel: 210-736-9494
eabsa@eabcoinc.com
www.eabcoinc.com

September 18, 2020

Texas Facilities Commission
 1711 San Jacinto Blvd.
 Austin, Texas 78701

Attention: Jim Overton

Re: **Proposal No. 3200309-1-3**
 RFQ #303-9-02101 Test, Adjust and Balance
 Capitol Complex Phase 1 1601 Congress
 Austin, Texas

We are pleased to propose our services to test and balance the heating, ventilating and air conditioning systems in the subject project. In particular, we are proposing our services per the Mechanical Plans dated June 29, 2020 and Specification Section 230593 entitled "Start-Up, Testing, Adjusting and Balancing."

Estimated to start date of October 2020 and estimated end date of July 2022.

Proposed Services:

Plan Review for Balanceability (Section 230593, 3.1)	\$2,100.00
Field Document Preparation Section 230593, 3.3)	\$5,590.00
Construction Coordination Meetings.....	\$3,990.00
Periodic Inspections (Section 230593, 3.1)	\$3,360.00
Witness Duct Pressure Testing (Section 230593, 3.3J)	\$3,360.00
Smoke/Fire Damper Testing (Section 230593, 3.3H)	\$8,505.00
Testing, Adjusting and Balancing Services (Section 230593, 1.2).....	\$89,920.00
Control Verification (Section 230593, 3.3N)	\$20,760.00
Support of Commissioning Process (Section 019113, 1.4 and 230800, 1.5).....	\$11,760.00
Allowance	\$10,000.00
Final Report Preparation (Section 230593, 3.3)	<u>\$8,385.00</u>

TOTAL PRICE FOR THE ABOVE SERVICES\$167,730.00

Clarifications:

1. This proposal assumes provisions to Engineered Air Balance Co., Inc. for direct access (hardware, software, and technical assistance) to all parts and aspects of the control system for balancing purposes, control verification, and all follow-up services at no additional cost to Engineered Air Balance Co., Inc. for the duration of the project.
2. This proposal includes a onetime follow-up re-verification of deficiencies noted by Engineered Air Balance Co., Inc. If discrepancies are found still outstanding, additional re-verification will be charged at our hourly rate plus expenses.

	Rate
Regular Time	\$105.00 / man hr.
Overtime	\$135.00 / man hr.
Premium Time	\$165.00 / man hr.

3. Testing of the duct-mounted smoke detectors is not required in the Testing and Balancing Specification Section and is the responsibility of the licensed installation contractor. Neither minimum differential pressure nor sequence testing of the duct-mounted smoke detectors is included in this proposal.
4. This proposal includes all systems to be balanced per AABC National Standards including instrumentation, tolerances, and procedures. Testing and balancing reports will be submitted on forms developed by Engineered Air Balance Co., Inc.
5. Providing and installing drive components (pulleys, sheaves, belts, motor, speed drives, etc.) is the responsibility of the manufacturer or installation contractor.
6. Record, measurement or adjustment of refrigerant pressures and temperatures are the responsibility of the manufacturer or the installation Contractor.
7. Engineered Air Balance Co., Inc. will witness the Contractor's testing for duct leakage.
8. The following services are the responsibility of the installing contractor and are excluded from this proposal: Gas Fired Boiler Safety Testing, Hydrostatic Testing, Refrigerant Leak Testing and Water Analysis and Testing.

This proposal will expire thirty (30) days from the date shown above. *Please reference this proposal number on all correspondence.* All parties agree the information contained in the proposal is confidential and is for the sole purpose of rendering or receiving services. We thank you for the opportunity of proposing our services. If we may be of further assistance, please contact our office.

Respectfully Submitted,

ENGINEERED AIR BALANCE CO., INC.

Daryl M Norris

Daryl M. Norris
Branch Manager, San Antonio Office

Q:\2020 Proposals\3200309-TFC 1601 Congress\BILLING\3200309-Proposal Rev. 9-18-20.docx

Exhibit G

Approved HUB Subcontracting Plan

Texas Facilities Commission (TFC)
HUB Program
EVALUATION OF RESPONDENT'S HUB SUBCONTRACTING PLAN (HSP)

Instructions: This evaluation must be completed for each response before it can be considered further. Please complete a separate evaluation sheet for each response within five(5) business days after the opening date of the solicitation.

Section I:

Name of Respondent: Engineered Balance Co, Inc.

Name of Project: Professional Eng. Svcs for Test, Adjust, and Balancing CC Projects, Phase I

Contract #:	Reg #:	PO #:	Project:
RFQ #:	RFP #: 303-9-02101	IFB#:	

Services: ☒ AE: ☐ CMR: ☐ RC: ☐ IDIQ: ☐ **Assignment #:** **Amendment #:** **GMP #:** **POCN #:**

TFC HUB Coordinator has reviewed the above referenced HSP response to this solicitation and finds that the HSP:

☒ **complies with** ☐ **does not comply with**

applicable HUB requirements under the Texas Government Code and Texas Administrative Code. See Sections II & III for specific details.

Respondent shall self-perform all services by providing all materials and performing all needed services to fulfill all requirements of the contract.

Shonte' Gordon

Print/Type Name:


TFC HUB Coordinator/Date

Section II:

Does the respondent intend to subcontract?

YES	NO	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Instructions: If "Yes," do not proceed to the following questions. If "No," proceed to the next question.

Comments: _____

Did the respondent verify that no subcontractors would be used in the performance of the work (verification must be provided on the form prescribed in the solicitation).

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------

Section III:

Respondents who DO intend to subcontract:

1. Did the respondent divide the work into reasonable portions, consistent with prudent industry practices (Identified the areas of subcontracting)?B

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Texas Facilities Commission (TFC)
HUB Program
EVALUATION OF RESPONDENT'S HUB SUBCONTRACTING PLAN (HSP)

Comments: _____

- | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|
| | YES | NO | N/A |
| 2. Did the respondent provide notice to HUBs of the work that the respondent intends to subcontract, in accordance with 1 T.A.C. Section 111.14? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments: _____

- | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|
| | YES | NO | N/A |
| 3. Did the respondent include an executed Mentor Protégé Agreement (per Section 2161.065 Government Code), registered with TPASS? Does the HUB subcontracting plan identify the area(s) of subcontracting the protégé will perform? (Submission of a protégé as a subcontractor constitutes a good faith effort for the particular area to be subcontracted with the protégé). | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments: _____

- | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|
| | YES | NO | N/A |
| 4. Did the respondent provide written justification of the selection process if a non-HUB subcontractor was selected by a process other than by competitive bidding, or a HUB bid was the best value responsive bidder to a competitive bid invitation, but was not selected? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments: _____

- | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|
| | YES | NO | N/A |
| 5. Did the respondent provide notice to minority or women trade organizations or development centers to assist in identifying HUBs by disseminating subcontracting opportunities to their membership/participants? Did the notice in all instances, include the scope of the work, specifications, and identify a contact person? Did Respondent provide notice to organizations or development centers no less than five (5) working days for construction contracts prior to submission of the response (bid, proposal, offer, or other applicable expression of interest)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments: _____



Rev. 2/17

HUB Subcontracting Plan (HSP)

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.284 are:

- **11.2 percent for heavy construction other than building contracts,**
- **21.1 percent for all building construction, including general contractors and operative builders' contracts,**
- **32.9 percent for all special trade construction contracts,**
- **23.7 percent for professional services contracts,**
- **26.0 percent for all other services contracts, and**
- **21.1 percent for commodities contracts.**

- - Agency Special Instructions/Additional Requirements - -

In accordance with 34 TAC §20.285(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent does not have a continuous contract in place for more than five (5) years shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

SECTION 1: RESPONDENT AND REQUISITION INFORMATION

- a. Respondent (Company) Name: Engineered Balance Co., Inc. State of Texas VID #: 175-09550269
 Point of Contact: Daryl M. Norris Phone #: (210) 736-9494, 3003
 E-mail Address: dnorris@eabcoinc.com Fax #: N/A
- b. Is your company a State of Texas certified HUB? ☐ - Yes ☒ - No
- c. Requisition #: RFQ #303-9-02101 Bid Open Date: 08/22/2019
(mm/dd/yyyy)

Enter your company's name here: Engineered Balance Co., Inc.Requisition #: RFQ #303-9-02101**SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS**

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, including **contracted staffing, goods and services will be subcontracted**. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

☐ - *Yes*, I will be subcontracting portions of the contract. (If *Yes*, complete Item b of this SECTION and continue to Item c of this SECTION.)

☒ - *No*, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If *No*, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <u>do not</u> have a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to HUBs with which you <u>have</u> a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to Non-HUBs.
1		%	%	%
2		%	%	%
3		%	%	%
4		%	%	%
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		%	%	%

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at <https://www.comptroller.texas.gov/purchasing/vendor/hub/forms.php>.)

c. Check the appropriate box (Yes or No) that indicates whether you will be using only Texas certified HUBs to perform all of the subcontracting opportunities you listed in SECTION 2, Item b.

☐ - *Yes* (If *Yes*, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - *No* (If *No*, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract with Texas certified HUBs with which you do not have a continuous contract* in place with for more than five (5) years, meets or exceeds the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

☐ - *Yes* (If *Yes*, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - *No* (If *No*, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed.)

***Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: Engineered Balance Co., Inc.Requisition #: RFQ #303-9-02101

SECTION 3: SELF PERFORMING JUSTIFICATION (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below explain how your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

Engineered Air Balance Co., Inc. performs all services of Testing and Balancing with its own permanently employed personnel. With 175 total employees and a combined experience exceeding 1400 years in the industry, EAB has the technical experience to provide the Owner with the highest quality testing, adjusting and balancing and commissioning programs. With three offices and 26 Test and Balance Engineers (TBE) certified by the Associated Air Balance Council (AABC), 54 Technicians certified by the AABC, and 56 Technicians in Training, Engineered Air Balance Co., Inc. continues to provide its clients with a team concept from design to post-acceptance by the Owner. Engineered Air Balance Co., Inc. has 9 employees certified as Commissioning Authorities (CxA). Further, Engineered Air Balance Co., Inc. is a registered professional engineering firm in the State of Texas with 7 licensed Professional Engineers (P.E.) and 7 Engineers-in-Training (EIT) on staff. Engineered Air Balance Co., Inc. also has 3 LEED Accredited Professionals (LEED AP) familiar with the LEED process. Finally, Engineered Air Balance Co., Inc. has 1 Certified Energy Manager (CEM) on staff who is also an Energy Management Professional (EMP) and is familiar with assessing the energy performance of new and existing projects.

SECTION 4: AFFIRMATION

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls>).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.



Signature

Daryl M. Norris

Printed Name

Branch Manager

Title

08/21/2019Date
(mm/dd/yyyy)

Reminder:

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

Exhibit H

HUB Subcontracting Plan Form



HUB Subcontracting Plan (HSP)

QUICK CHECKLIST

While this HSP Quick Checklist is being provided to merely assist you in readily identifying the sections of the HSP form that you will need to complete, it is very important that you adhere to the instructions in the HSP form and instructions provided by the contracting agency.

- If you will be awarding all of the subcontracting work you have to offer under the contract to only Texas certified HUB vendors, complete:
 - ☐ Section 1 - Respondent and Requisition Information
 - ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
 - ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors.
 - ☐ Section 2 c. - Yes
 - ☐ Section 4 - Affirmation
 - ☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.
- If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract* in place for more than five (5) years meets or exceeds the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:
 - ☐ Section 1 - Respondent and Requisition Information
 - ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
 - ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
 - ☐ Section 2 c. - No
 - ☐ Section 2 d. - Yes
 - ☐ Section 4 - Affirmation
 - ☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.
- If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors or only to Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract* in place for more than five (5) years does not meet or exceed the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:
 - ☐ Section 1 - Respondent and Requisition Information
 - ☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
 - ☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
 - ☐ Section 2 c. - No
 - ☐ Section 2 d. - No
 - ☐ Section 4 - Affirmation
 - ☐ GFE Method B (Attachment B) - Complete an Attachment B for each of the subcontracting opportunities you listed in Section 2 b.
- If you will not be subcontracting any portion of the contract and will be fulfilling the entire contract with your own resources (i.e., employees, supplies, materials and/or equipment), complete:
 - ☐ Section 1 - Respondent and Requisition Information
 - ☐ Section 2 a. - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources.
 - ☐ Section 3 - Self Performing Justification
 - ☐ Section 4 - Affirmation

***Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.



Rev. 2/17

HUB Subcontracting Plan (HSP)

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.284 are:

- **11.2 percent for heavy construction other than building contracts,**
- **21.1 percent for all building construction, including general contractors and operative builders' contracts,**
- **32.9 percent for all special trade construction contracts,**
- **23.7 percent for professional services contracts,**
- **26.0 percent for all other services contracts, and**
- **21.1 percent for commodities contracts.**

-- Agency Special Instructions/Additional Requirements --

In accordance with 34 TAC §20.285(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent does not have a continuous contract in place for more than five (5) years shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

SECTION 1: RESPONDENT AND REQUISITION INFORMATION

- a. Respondent (Company) Name: _____ State of Texas VID #: _____
 Point of Contact: _____ Phone #: _____
 E-mail Address: _____ Fax #: _____
- b. Is your company a State of Texas certified HUB? ☐ - Yes ☐ - No
- c. Requisition #: _____ Bid Open Date: _____

(mm/dd/yyyy)

Enter your company's name here: _____

Requisition #: _____

SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, including contracted staffing, goods and services will be subcontracted. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

☐ - Yes, I will be subcontracting portions of the contract. (If Yes, complete Item b of this SECTION and continue to Item c of this SECTION.)

☐ - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If No, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <u>do not</u> have a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to non-HUBs.
1		%	%	%
2		%	%	%
3		%	%	%
4		%	%	%
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		%	%	%

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at <https://www.comptroller.texas.gov/purchasing/vendor/hub/forms.php>.)

c. Check the appropriate box (Yes or No) that indicates whether you will be using only Texas certified HUBs to perform all of the subcontracting opportunities you listed in SECTION 2, Item b.

☐ - Yes (If Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - No (If No, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract with Texas certified HUBs with which you do not have a continuous contract* in place with for more than five (5) years, meets or exceeds the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

☐ - Yes (If Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - No (If No, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed.)

***Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: _____

Requisition #: _____

SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS (CONTINUATION SHEET)

This page can be used as a continuation sheet to the HSP Form's page 2, Section 2, Item b. Continue listing the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <u>do not</u> have a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <u>continuous contract*</u> in place for <u>more than five (5) years</u> .	Percentage of the contract expected to be subcontracted to non-HUBs.
16		%	%	%
17		%	%	%
18		%	%	%
19		%	%	%
20		%	%	%
21		%	%	%
22		%	%	%
23		%	%	%
24		%	%	%
25		%	%	%
26		%	%	%
27		%	%	%
28		%	%	%
29		%	%	%
30		%	%	%
31		%	%	%
32		%	%	%
33		%	%	%
34		%	%	%
35		%	%	%
36		%	%	%
37		%	%	%
38		%	%	%
39		%	%	%
40		%	%	%
41		%	%	%
42		%	%	%
43		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		%	%	%

***Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: _____

Requisition #: _____

SECTION 3: SELF PERFORMING JUSTIFICATION (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below explain how your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

SECTION 4: AFFIRMATION

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls>).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.

Signature_____
Printed Name_____
Title_____
Date
(mm/dd/yyyy)

Reminder:

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: _____ Requisition #: _____

IMPORTANT: If you responded "No" to SECTION 2, Items c and d of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in SECTION 2, Item b of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-qfe-achm-b.pdf>.

SECTION B-1: SUBCONTRACTING OPPORTUNITY

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: _____ Description: _____

SECTION B-2: MENTOR PROTÉGÉ PROGRAM

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in SECTION B-1, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- ☐ - Yes (If *Yes*, continue to SECTION B-4.)
- ☐ - No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a. Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs **at least seven (7) working days** to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbldsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b. List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID (Do not enter Social Security Numbers.)	Date Notice Sent (mm/dd/yyyy)	Did the HUB Respond?
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No

- c. Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to **two (2)** or more trade organizations or development centers in **Texas** to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers **at least seven (7) working days** prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.
- d. List **two (2) trade organizations or development centers** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent (mm/dd/yyyy)	Was the Notice Accepted?
		<input type="checkbox"/> - Yes <input type="checkbox"/> - No
		<input type="checkbox"/> - Yes <input type="checkbox"/> - No

HSP Good Faith Effort - Method B (Attachment B) Cont.

Rev. 2/17

Enter your company's name here: _____

Requisition #: _____

SECTION B-4: SUBCONTRACTOR SELECTION

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: _____ Description: _____

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is not a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

REMINDER: As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in **Section B** has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in **Section C, Item 2**, reply no later than the date and time identified in **Section C, Item 1**. Submit your response to the point-of-contact referenced in **Section A**.

SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: _____
 Point-of-Contact: _____
 E-mail Address: _____

State of Texas VID #: _____
 Phone #: _____
 Fax #: _____

SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: _____
 Point-of-Contact: _____
 Requisition #: _____

Phone #: _____
 Bid Open Date: _____
 (mm/dd/yyyy)

SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,
 we must receive your bid response no later than _____ on _____.
 Central Time Date (mm/dd/yyyy)

In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).

(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)

2. Subcontracting Opportunity Scope of Work:

3. Required Qualifications:

☐ - Not Applicable

4. Bonding/Insurance Requirements:

☐ - Not Applicable

5. Location to review plans/specifications:

☐ - Not Applicable

Exhibit I

HUB Subcontracting Plan Progress Assessment Report Form

Rev. 10/16

Contract/Requisition Number: _____ Date of Award: _____ Object Code: _____

Contractor (Company) Name: State of Texas VID #:

Reporting (Month) Period: _____ Total Amount Paid this Reporting Period to Contractor: \$ _____ -

Directory Search located at: <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Signature: _____ Title: _____ Date: _____

COMMENT HISTORY



Please DocuSign: Engineered Air 21-020 Exhibits.pdf, Engineered Air Balance 21-020-000.docx

Sender: MARTIN BLAIR

Envelope Id: 5e47d3e1-1490-49af-babe-c1a5b45efd6e

Time Zone: (UTC-06:00) Central Time (US & Canada)

Date Sent: 12/30/2020 | 14:18 PM

Date Completed: 1/5/2021 | 07:33 AM

All Recipients

John S. Raff, Deputy Executive Director -1/4/2021 | 13:07 PM
John.Raff@tfc.texas.gov
...for the 1601 Building for the Capitol Complex Phase I

All Recipients

John S. Raff, Deputy Executive Director -1/4/2021 | 13:09 PM
John.Raff@tfc.texas.gov
For the 1601 Building at the Capitol Complex - For easy reference later when we are searching for contracts